

Permit Writer	Edward Andrews
Email Address	Edward.s.andrews@wv.gov
Company Name	Stockmeier Urethanes U.S.A. Inc.
Company ID	033-00150
Permit Number	R13-2581B
Facility Name	Clarksburg
County	Harrison
Newspaper	The Exponent-Telegram <i>626-1400</i>
Company Contact & Email	r.romine@stockmeier.us.com
Consultant Email Address	<a href="mailto:lsteel@masesinc.com">lsteel@masesinc.com</a> & <a href="mailto:brian.woods@masesinc.com">brian.woods@masesinc.com</a>
Regional Office	Karl

*publish Fri Sept 9 2016*

*30 days Tues Oct 11 2016*

*emailed newspaper 9/7 p*  
*EPA, etc email draft*  
*public notice email draft*



# INTERNAL PERMITTING DOCUMENT TRACKING MANIFEST

Company Name Stockpiles Unearthed

Permitting Action Number R13-258B Total Days 97 DAQ Days 7

**Permitting Action:**

- |   |                                    |   |
|---|------------------------------------|---|
| <input type="radio"/> Permit Determination  | <input type="radio"/> Temporary    | <input checked="" type="radio"/> Modification |
| <input type="radio"/> General Permit        | <input type="radio"/> Relocation   | <input type="radio"/> PSD (Rule 14)           |
| <input type="radio"/> Administrative Update | <input type="radio"/> Construction | <input type="radio"/> NNSR (Rule 19)          |

**Documents Attached:**

- |  |   |
|--|---|
| <input checked="" type="radio"/> Engineering Evaluation/Memo   | <input checked="" type="radio"/> Completed Database Sheet |
| <input checked="" type="radio"/> Draft Permit                  | <input type="radio"/> Withdrawal                          |
| <input checked="" type="radio"/> Notice                        | <input type="radio"/> Letter                              |
| <input type="radio"/> Denial                                   | <input type="radio"/> Other (specify) _____               |
| <input type="radio"/> Final Permit/General Permit Registration | _____   |

Date	From	To	Action Requested
8/12	Ed	Bev	Please review for public comment
9/2	Bev	Ed	See comments - Addition - C to Notice

**NOTE:** Retain a copy of this manifest for your records when transmitting your document(s).



**Permit / Application Information Sheet**  
**Division of Environmental Protection**  
**West Virginia Office of Air Quality**

<b>Company:</b>	Stockmeier Urethanes U.S.A., Inc.		<b>Facility:</b>	Clarksburg	
<b>Region:</b>	6	<b>Plant ID:</b>	033-00150	<b>Application #:</b>	13-2581B
<b>Engineer:</b>	Andrews, Edward S.		<b>Category:</b>	Chemical	
<b>Physical Address:</b>	20 Columbia Boulevard Clarksburg WV 26302		SIC: [2821] CHEMICALS AND ALLIED PRODUCTS - PLASTICS MATERIALS AND RESINS NAICS: [325211] Plastics Material and Resin Manufacturing		
<b>County:</b>	Harrison				
<b>Other Parties:</b>	PRES - Martinkat, Christian 304-624-7002 Dir_Opera - Romine, Rocky 304-624-7002				

<b>Information Needed for Database and AIRS</b>
1. Need valid physical West Virginia address with zip

<b>Regulated Pollutants</b>	
Formaldehyde	10.000 TPY
MDI	0.600 TPY
NI-PM Nickel (PM10)	0.040 TPY
SO2 Sulfur Dioxide	0.060 TPY
VOC Volatile Organic Compounds (Reactive organic gases)	6.030 TPY
TDI	0.600 TPY
NOX Nitrogen Oxides (including NO, NO2, NO3, N2O3, N2O4, and N2O5)	1.990 TPY
CO2E Carbon Dioxide Equivalents	260.860 TPY

<b>Summary from this Permit 13-2581B</b>		
<b>Air Programs</b>	<b>Applicable Regulations</b>	
NSPS	07 60 A	
<b>Fee Program</b>	<b>Fee</b>	<b>Application Type</b>
	\$2,000.00	MODIFICATION

**Notes from Database**  
 Permit Note: Application R13-2581A was withdrawn and app fee has been applied to R13-2581B. This action is for the installation of three additional storage tanks, eight reactors, and two emergency generators. Both EGs are certified by EPA.

<b>Activity Dates</b>	
APPLICATION FEE PAID	09/29/2014
APPLICATION RECIEVED	05/06/2016
ASSIGNED DATE	05/06/2016
APPLICANT PUBLISHED LEGAL AD	05/20/2016
APPLICATION DEEMED COMPLETE	08/04/2016

**NON-CONFIDENTIAL**

Please note, this information sheet is not a substitute for file research and is limited to data entered into the AIRTRAX database.

Company ID: 033-00150  
 Company: Stockmeier Urethanes U.S.A., I  
 Printed: 08/11/2016  
 Engineer: Andrews, Edward S.

# AIR QUALITY PERMIT NOTICE

## Notice of Intent to Approve

On May 6, 2016, Stockmeier Urethanes U.S.A. Inc. applied to the WV Department of Environmental Protection, Division of Air Quality (DAQ) for a permit to modify a polyurethane manufacturing facility located at 20 Columbia Boulevard, in Clarksburg, Harrison County, WV at latitude 39.281759 degrees and longitude -80.294137 degrees. A preliminary evaluation has determined that all State and Federal air quality requirements will be met by the proposed facility. The DAQ is providing notice to the public of its preliminary determination to issue the permit as Permit R13-2581B.

The following potential emissions will be authorized by this permit action: Particulate Matter less than 10 microns, 0.04 tons per year (TPY); Particulate Matter, 0.04 TPY; Sulfur Dioxide, decrease 0.06 TPY; Oxides of Nitrogen, 1.99 TPY; Carbon Monoxide, 0.38 TPY; Volatile Organic Compounds, 4.55 TPY; Methylene diphenyl diisocyanate (MDI), which is a Hazardous Air Pollutant, 0.40 TPY; 2,4-Toluene diisocyanate (TDI), which is a Hazardous Air Pollutants, 0.40 TPY; and Carbon Dioxide Equivalent, 260.86 TPY.

Written comments or requests for a public meeting must be received by the DAQ before 5:00 p.m. on **TBD by Sandra**. A public meeting may be held if the Director of the DAQ determines that significant public interest has been expressed, in writing, or when the Director deems it appropriate.

The purpose of the DAQ's permitting process is to make a preliminary determination if the proposed modification will meet all state and federal air quality requirements. The purpose of the public review process is to accept public comments on air quality issues relevant to this determination. Only written comments received at the address noted below within the specified time frame, or comments presented orally at a scheduled public meeting, will be considered prior to final action on the permit. All such comments will become part of the public record.

Edward Andrews  
WV Department of Environmental Protection  
Division of Air Quality  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304  
Telephone: 304/926-0499, ext. 1214  
FAX: 304/926-0478

Additional information, including copies of the draft permit, application and all other supporting materials relevant to the permit decision may be obtained by contacting the engineer listed above. The draft permit and engineering evaluation can be downloaded at:

[www.dep.wv.gov/daq/Pages/NSRPermitsforReview.aspx](http://www.dep.wv.gov/daq/Pages/NSRPermitsforReview.aspx)

*West Virginia Department of Environmental Protection*  
*Earl Ray Tomblin*  
*Governor*

*Division of Air Quality*

*Randy C. Huffman*  
*Cabinet Secretary*

# Permit to Modify



**R13-2581B**

*This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§22-5-1 et seq.) and 45 C.S.R. 13 – Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation. The permittee identified at the above-referenced facility is authorized to construct the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.*

*Issued to:*

**Stockmeier Urethanes U.S.A. Inc.**  
**Clarksburg**  
**033-00150**

---

*William F. Durham*  
*Director*

*Issued: DRAFT*

This permit will supercede and replace Permit R13-2581.

Facility Location: 20 Columbia Boulevard  
Clarksburg, Harrison County, West Virginia  
Mailing Address: P.O. Box 1456  
Clarksburg, WV 26302-1456  
Facility Description: Chemical Blending Facility  
NAICS Codes: 325211  
UTM Coordinates: 560.882 km Easting • 4,348.122 km Northing • Zone 17  
Permit Type: Modification  
Description of Change: This action is for the installation of three additional storage tanks, eight reactors, and two emergency generators.

*Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §§22-5-14.*

---

*The source is not subject to 45CSR30.*

**Table of Contents**

**1.0. Emission Units.....4**

**2.0. General Conditions.....6**

    2.1. Definitions .....6

    2.2. Acronyms .....6

    2.3. Authority .....7

    2.4. Term and Renewal.....7

    2.5. Duty to Comply .....7

    2.6. Duty to Provide Information.....7

    2.7. Duty to Supplement and Correct Information .....8

    2.8. Administrative Update.....8

    2.9. Permit Modification.....8

    2.10 Major Permit Modification.....8

    2.11. Inspection and Entry .....8

    2.12. Emergency.....8

    2.13. Need to Halt or Reduce Activity Not a Defense.....9

    2.14. Suspension of Activities .....9

    2.15. Property Rights.....9

    2.16. Severability.....10

    2.17. Transferability .....10

    2.18. Notification Requirements.....10

    2.19. Credible Evidence .....10

**3.0. Facility-Wide Requirements .....11**

    3.1. Limitations and Standards .....11

    3.2. Monitoring Requirements.....11

    3.3. Testing Requirements .....11

    3.4. Recordkeeping Requirements.....12

    3.5. Reporting Requirements .....13

**4.0. Source-Specific Requirements.....15**

    4.1. Limitations and Standards .....15

    4.2. Monitoring Requirements.....17

    4.3. Testing Requirements .....18

    4.4. Recordkeeping Requirements.....19

    4.5. Reporting Requirements .....20

**CERTIFICATION OF DATA ACCURACY.....21**

**1.0. Emission Units**

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
S1	E1	Isocyanate Storage Tank Iso04	2004	12,000 gal	C2
S2	E1	Isocyanate Storage Tank Iso03	2004	8,000 gal	C2
S3	E1	Isocyanate Storage Tank Iso02	2004	8,000 gal	C2
S4	E1	Isocyanate Storage Tank Iso01	2004	8,000 gal	C2
S5	E1	Isocyanate Storage Tank Iso04	2004	8,000 gal	C2
S6	E1	Isocyanate Storage Tank TDI	2004	5,000 gal	C3
S7	E1	Polyol Storage Tank Plyol05	2004	12,000 gal	C1
S8	E1	Polyol Storage Tank Plyol06	2004	8,000 gal	C1
S9	E1	Polyol Storage Tank Plyol03	2004	8,000 gal	C1
S10	E1	Polyol Storage Tank Plyol06	2004	8,000 gal	C1
S11	E1	AD-144233_PLS Storage Tank Soy	2004	8,000 gal	C1
S12	E6	Polyol Storage Tank	2015	6,700 gal	C8
S13	E7	Isocyanate Storage Tank MDI	2015	6,000 gal	None
S14	E1	Polyol Storage Tank ES 02	2016	20,000 gal	None
D1	E3	Dispersion Machine 1	2004	4,000 gal	D1VP & C9
D1VP	E3	Vacuum Pump for D1	2004	N/A	C5
D2	Bldg.	Dispersion Machine 2	2004		C9
D3	Bldg.	Dispersion Machine 3	2004		C9
D4		Dispersion Machine 4 for (R&D purposes)	2004		
D5	E2	Dispersion Machine 5	2014	4,000 gal	C9
R1	E1	Reactor 1	2004	3,000 gal	C3
R2	E1	Reactor 2	2004	3,000 gal	C3
R3	E1	Reactor 3	2004	1,500 gal	C3
R5	E6	Reactor 5 w/vacuum pump	2015	675 gal	C8
R6	E6	Reactor 6 w/vacuum pump	2015	600 gal	C8
R7	E6	Reactor 7 w/vacuum pump	2015	1,718 gal	C8
R7DV	E5	Reactor 7 Drum Vent	2015	N/A	C7
R8	E6	Reactor 8	2015	6,250 gal	C8
R9	E6	Reactor 9	2016	6,250 gal	C8
R10	E6	Reactor 10 w/vacuum pump	2015	1,000 gal	C8
R11	E5	Reactor 11	2015	5,000 gal	C7
R12	E5	Reactor 12	2015	5,000 gal	C7
R13	E5	Reactor 13 w/vacuum pump	2015	275 gal	C7

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
FS4	Bldg.	Filling Station 4	2004	N/A	None
FS6	Bldg.	Filling Station 6	2004	N/A	None
M1	Bldg.	Mixing Machine 1	2004		None
M2	Bldg.	Mixing Machine 2	2004		None
M3	Bldg.	Mixing Machine 3	2004		None
M4	Bldg.	Mixing Machine 4	2004		None
BFS	E4	Bulk Filing Station Tanker Trucker Loading Station	2015	1 Bay	C6 & Covered
O1	Bldg.	Electric Oven	2015		Bldg.
O2	Bldg.	Electric Oven	2015		Bldg.
O3	Bldg.	Electric Oven	2015		Bldg.
EG51	51E	100 kW Emergency Generator Generac QT100 w/NG Fired Engine EPA Certification #EGNXB06.82-029	2014	149 bhp	
EG52	52E	600 kW Emergency Generator Generac Generator Set Perkins Compression Ignition Engine Manufactured Date: Nov 2015 EPA Certification #FCPXL18.1NYS-010	2016	909 bph	None

**Table 1.1. – Control Devices**

Control Device ID No.	Control Device	Type of Control	Emission Point ID No.
C1	Carbon Drum	Granular Activated Carbon Absorber	E1
C2	Carbon Drum	Granular Activated Carbon Absorber	E1
C3	Carbon Drum	Granular Activated Carbon Absorber	E1
C4	Carbon Drum	Granular Activated Carbon Absorber	E2
C5	Carbon Drum	Granular Activated Carbon Absorber	E3
C6	Carbon Drum	Granular Activated Carbon Absorber	E4
C7	Carbon Drum	Granular Activated Carbon Absorber	E5
C8	Carbon Drum	Granular Activated Carbon Absorber	E6
C9	Dust Collector	4 Cartridge Fabric Filter Dust Collector	Bldg.

C9 only controls particulate matter emissions from the dispersion machines when solids are being added during the process. The discharge of this control device is released within the building.

**2.0. General Conditions**

**2.1. Definitions**

- 2.1.1. All references to the “West Virginia Air Pollution Control Act” or the “Air Pollution Control Act” mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.
- 2.1.2. The “Clean Air Act” means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.
- 2.1.3. “Secretary” means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary’s designated representative for the purposes of this permit.

**2.2. Acronyms**

<b>CAAA</b>	Clean Air Act Amendments	<b>NO<sub>x</sub></b>	Nitrogen Oxides
<b>CBI</b>	Confidential Business Information	<b>NSPS</b>	New Source Performance Standards
<b>CEM</b>	Continuous Emission Monitor	<b>PM</b>	Particulate Matter
<b>CES</b>	Certified Emission Statement	<b>PM<sub>2.5</sub></b>	Particulate Matter less than 2.5 μm in diameter
<b>C.F.R. or CFR</b>	Code of Federal Regulations	<b>PM<sub>10</sub></b>	Particulate Matter less than 10μm in diameter
<b>CO</b>	Carbon Monoxide	<b>Ppb</b>	Pounds per Batch
<b>C.S.R. or CSR</b>	Codes of State Rules	<b>Pph</b>	Pounds per Hour
<b>DAQ</b>	Division of Air Quality	<b>Ppm</b>	Parts per Million
<b>DEP</b>	Department of Environmental Protection	<b>Ppm<sub>v</sub> or ppm<sub>v</sub></b>	Parts per Million by Volume
<b>dscm</b>	Dry Standard Cubic Meter	<b>PSD</b>	Prevention of Significant Deterioration
<b>FOIA</b>	Freedom of Information Act	<b>Psi</b>	Pounds per Square Inch
<b>HAP</b>	Hazardous Air Pollutant	<b>SIC</b>	Standard Industrial Classification
<b>HON</b>	Hazardous Organic NESHAP	<b>SIP</b>	State Implementation Plan
<b>HP</b>	Horsepower	<b>SO<sub>2</sub></b>	Sulfur Dioxide
<b>lbs/hr</b>	Pounds per Hour	<b>TAP</b>	Toxic Air Pollutant
<b>LDAR</b>	Leak Detection and Repair	<b>TPY</b>	Tons per Year
<b>M</b>	Thousand	<b>TRS</b>	Total Reduced Sulfur
<b>MACT</b>	Maximum Achievable Control Technology	<b>TSP</b>	Total Suspended Particulate
<b>MDHI</b>	Maximum Design Heat Input	<b>USEPA</b>	United States Environmental Protection Agency
<b>MM</b>	Million	<b>UTM</b>	Universal Transverse Mercator
<b>MMBtu/hr or mmbtu/hr</b>	Million British Thermal Units per Hour	<b>VEE</b>	Visual Emissions Evaluation
<b>MMCF/hr or mmcf/hr</b>	Million Cubic Feet per Hour	<b>VOC</b>	Volatile Organic Compounds
<b>NA</b>	Not Applicable	<b>VOL</b>	Volatile Organic Liquids
<b>NAAQS</b>	National Ambient Air Quality Standards		
<b>NESHAPS</b>	National Emissions Standards for Hazardous Air Pollutants		

### **2.3. Authority**

This permit is issued in accordance with West Virginia Air Pollution Control Act W.Va. Code §§ 22-5-1. et seq. and the following Legislative Rules promulgated thereunder:

- 2.3.1. 45CSR13 – *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation;*

### **2.4. Term and Renewal**

- 2.4.1. This permit supersedes and replaces previously issued Permit R13-2581. This Permit shall remain valid, continuous and in effect unless it is revised, suspended, revoked or otherwise changed under an applicable provision of 45CSR13 or any other applicable legislative rule;

### **2.5. Duty to Comply**

- 2.5.1. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Application R13-2581. R13-2581B, and any modifications, administrative updates, or amendments thereto. The Secretary may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to; [45CSR§§13-5.11 and 10.3.]
- 2.5.2. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA;
- 2.5.3. Violations of any of the conditions contained in this permit, or incorporated herein by reference, may subject the permittee to civil and/or criminal penalties for each violation and further action or remedies as provided by West Virginia Code 22-5-6 and 22-5-7;
- 2.5.4. Approval of this permit does not relieve the permittee herein of the responsibility to apply for and obtain all other permits, licenses, and/or approvals from other agencies; i.e., local, state, and federal, which may have jurisdiction over the construction and/or operation of the source(s) and/or facility herein permitted.

### **2.6. Duty to Provide Information**

The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for administratively updating, modifying, revoking, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.

## **2.7. Duty to Supplement and Correct Information**

Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.

## **2.8. Administrative Update**

The permittee may request an administrative update to this permit as defined in and according to the procedures specified in 45CSR13.  
[45CSR§13-4.]

## **2.9. Permit Modification**

The permittee may request a minor modification to this permit as defined in and according to the procedures specified in 45CSR13.  
[45CSR§13-5.4.]

## **2.10 Major Permit Modification**

The permittee may request a major modification as defined in and according to the procedures specified in 45CSR14 or 45CSR19, as appropriate.  
[45CSR§13-5.1]

## **2.11. Inspection and Entry**

The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

- a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
- d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

## **2.12. Emergency**

- 2.12.1. An "emergency" means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by

improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

- 2.12.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of Section 2.12.3 are met.
- 2.12.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
- a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
  - b. The permitted facility was at the time being properly operated;
  - c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
  - d. The permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.
- 2.12.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
- 2.12.5 The provisions of this section are in addition to any emergency or upset provision contained in any applicable requirement.

### **2.13. Need to Halt or Reduce Activity Not a Defense**

It shall not be a defense for a permittee in an enforcement action that it should have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.

### **2.14. Suspension of Activities**

In the event the permittee should deem it necessary to suspend, for a period in excess of sixty (60) consecutive calendar days, the operations authorized by this permit, the permittee shall notify the Secretary, in writing, within two (2) calendar weeks of the passing of the sixtieth (60) day of the suspension period.

### **2.15. Property Rights**

This permit does not convey any property rights of any sort or any exclusive privilege.

**2.16. Severability**

The provisions of this permit are severable and should any provision(s) be declared by a court of competent jurisdiction to be invalid or unenforceable, all other provisions shall remain in full force and effect.

**2.17. Transferability**

This permit is transferable in accordance with the requirements outlined in Section 10.1 of 45CSR13. [45CSR§13-10.1.]

**2.18. Notification Requirements**

The permittee shall notify the Secretary, in writing, no later than thirty (30) calendar days after the actual startup of the operations authorized under this permit.

**2.19. Credible Evidence**

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defense otherwise available to the permittee including, but not limited to, any challenge to the credible evidence rule in the context of any future proceeding.

### 3.0. Facility-Wide Requirements

#### 3.1. Limitations and Standards

- 3.1.1. **Open burning.** The open burning of refuse by any person, firm, corporation, association or public agency is prohibited except as noted in 45CSR§6-3.1.  
[45CSR§6-3.1.]
- 3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause, suffer, allow or permit any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.  
[45CSR§6-3.2.]
- 3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management, and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.  
[40CFR§61.145(b) and 45CSR§34]
- 3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.  
[45CSR§4-3.1] *[State Enforceable Only]*
- 3.1.5. **Permanent shutdown.** A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shutdown, unless such source can provide to the Secretary, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shutdown.  
[45CSR§13-10.5.]
- 3.1.6. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.  
[45CSR§11-5.2.]

#### 3.2. Monitoring Requirements *[Reserved]*

#### 3.3. Testing Requirements

- 3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling

connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

- a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.
- b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.
- c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.
- d. The permittee shall submit a report of the results of the stack test within sixty (60) days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1.; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:
  1. The permit or rule evaluated, with the citation number and language;
  2. The result of the test for each permit or rule condition; and,
  3. A statement of compliance or noncompliance with each permit or rule condition.

[WV Code § 22-5-4(a)(14-15) and 45CSR13]

### **3.4. Recordkeeping Requirements**

- 3.4.1. **Retention of records.** The permittee shall maintain records of all information (including monitoring data, support information, reports, and notifications) required by this permit recorded in a form suitable and readily available for expeditious inspection and review. Support information includes all calibration and maintenance records and all original strip-chart recordings for

continuous monitoring instrumentation. The files shall be maintained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two (2) years of data shall be maintained on site. The remaining three (3) years of data may be maintained off site, but must remain accessible within a reasonable time. Where appropriate, the permittee may maintain records electronically (on a computer, on computer floppy disks, CDs, DVDs, or magnetic tape disks), on microfilm, or on microfiche.

- 3.4.2. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.

[45CSR§4. *State Enforceable Only.*]

### 3.5. Reporting Requirements

- 3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- 3.5.2. **Confidential information.** A permittee may request confidential treatment for the submission of reporting required by this permit pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.
- 3.5.3. **Correspondence.** All notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

**If to the DAQ:**  
Director  
WVDEP  
Division of Air Quality  
601 57<sup>th</sup> Street  
Charleston, WV 25304-2345

**If to the US EPA:**  
Associate Director  
Office of Air Enforcement and Compliance Assistance  
(3AP20)  
U.S. Environmental Protection Agency  
Region III  
1650 Arch Street  
Philadelphia, PA 19103-2029

#### 3.5.4. Operating Fee

- 3.5.4.1. In accordance with 45CSR22 – Air Quality Management Fee Program, the permittee shall not operate nor cause to operate the permitted facility or other associated facilities on the same or contiguous sites comprising the plant without first obtaining and having in current effect a Certificate to Operate (CTO). Such Certificate to Operate (CTO) shall be renewed annually, shall be maintained on the premises for which the certificate has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.
- 3.5.5. **Emission inventory.** At such time(s) as the Secretary may designate, the permittee herein shall prepare and submit an emission inventory for the previous year, addressing the emissions from the facility and/or process(es) authorized herein, in accordance with the emission inventory submittal

---

requirements of the Division of Air Quality. After the initial submittal, the Secretary may, based upon the type and quantity of the pollutants emitted, establish a frequency other than on an annual basis.

## 4.0. Source-Specific Requirements

### 4.1. Limitations and Standards

- 4.1.1. Emissions of VOC from the facility, shall not exceed 6.00 tpy. Compliance with this emission limit is satisfied through complying with Condition 4.1.3.
- 4.1.2. Emissions of Methylene diphenyl diisocyanate (MDI) and 2,4-Toluene diisocyanate (TDI) from the facility process units, which shall include storage vessels, reactors, filling stations, and fugitives sources, shall not exceed 0.60 tons per year of each of these two hazardous air pollutants. Compliance with this emission limit is satisfied through complying with Condition 4.1.3.
- 4.1.3. The permittee shall comply with the following work practice requirements:
  - a. All storage vessels shall be operated with a blanketing system using either dry air or nitrogen. Except for S13 and S14, the discharge side of the blanketing system from the storage vessels shall be vented to a control device.
  - b. All pressure relief devices on all storage vessels and reactors shall be monitored for the purpose of detecting releases or depressurization of the monitored vessel.
  - c. The piping or ducting connecting the emission sources to be vented to control device as noted in Table 1.0 of this permit shall be referred as the closed vent system in this permit.
  - d. For all bulk tanker trailer loadout, the vapor return from the tanker line shall be connected to C4.
  - e. Overhead ventilation drops above or near the following process equipment shall be connected to an control device identified as C4 through a closed vent system:
    - i. Reactors 2 and 3;
    - ii. Storage Vessel S6;
    - iii. Dispersion Machines D1 and D5; and
    - iv. Fill Station 4 (FS4).
  - f. These closed vent systems as required in this condition shall meet the following:
    - i. The system shall be constructed and maintained free of leaks. A leaking component is defined as a measured instrument reading greater than 500 ppm above background or by audio, visual, or olfactory inspection techniques.
    - ii. Detected leaks shall be repaired as soon as practicable with the first attempt at repair within 5 calendar days after detecting the leak. Repair shall be completed no later than 15 calendar days after the leak is detected.  
[45 CSR §13-5.11.]
  - g. Each of the activate carbon drum control devices (C1 through C8) shall be maintained in accordance with the following:
    - i. Each carbon drum control device shall be equipped with a visual color indicator that detects breakthrough of organic compounds has occurred for the device.

- ii. Once breakthrough has occurred for a carbon drum control device has been detected, the saturated carbon in the control device shall be replaced as soon as possible but no later than 2 days after detecting that breakthrough of the particular control device has occurred except for C6. If breakthrough has occurred for C6, the saturated carbon in the control device shall be replaced prior to loading the next tanker trailer.
  - h. The process piping at the facility to include the connected process equipment shall be maintained in such maintain to be free of leaks. If a leak is detected, it shall be repaired in accordance with the timing outline in Condition 4.1.3.e.ii.
  - i. When adding solids to the dispersion machines (D1, D2, D3 and D5), the permittee shall control fugitive particulate matter by routing the vapor return line from the machine for dust collector C9.  
[45 CSR §7-5.1]
- 4.1.4. The facility may change the product recipes if the changes do not exceed the VOC and HAP emissions specified in this permit and the Toxic Air Pollutants rates listed in Table A to 45 CSR 27.  
[45 CSR §13-2.17.c.]
- 4.1.5. The following conditions and requirements are specific to the engine for generator set identified as EG51:
- a. The permittee shall purchase an engine that has been certified to meet the emission standards in 40 CFR §60.4231(e).  
[40 CFR §60.4243(b)]
  - b. The permittee shall operate and maintain the certified engine in accordance with the manufacturer's emission-related written instruction. If the permittee makes an adjustment to the engine's settings according to and consistent with the manufacturer's instruction, the engine is not considered out of compliance with item a of this condition.  
[40 CFR §60.4243(a)(1)]
  - c. There is no time limit on the use of the engine in emergency situations. The engine can operate for combined non-emergency purposes, which include emergency demand response, maintenance and testing, and other non-emergency use for a maximum of 100 hours per year. Within the 100 hours per year, the engine can only operate:
    - i. 50 hours per year for maintenance, testing or readiness checks;
    - ii. 15 hours per year for emergency demand response. Emergency demand response is determined by the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3 or other authorized entity as determined by the Reliability Coordinator; and
    - iii. 50 hours per year for non-emergency use. The non-emergency situations cannot be used for peak shaving or to generate income for the facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
- The operating limits imposed in this condition are on a calendar year basis.  
[40 CFR §60.4243(d)]
- d. The engine shall be equipped with a non-resettable hour-meter prior to initial start-up of the engine.  
[40 CFR §60.4237(a)]

- e. The engine shall only be fired with pipeline quality natural gas. This condition satisfies compliance with the limitation of 45CSR§10-3.1.e.  
[45 CSR §10-10.3., and 45 CSR §10A-3.1.b.]
- 4.1.6. The following conditions and requirements are specific to the engine for generator set identified as EG52:
- a. The generator set shall be used as an emergency stationary generator and be limited to non-emergency operation of no more than 100 hours per year. Non-emergency operation shall be for maintenance checks and readiness tests. Emergency operation is defined when electric power from the local utility is interrupted.  
[40 CFR §60.4211(f)]
  - b. The generator set shall be equipped with an engine or engine configuration that has been certified by the manufacturer to comply with either 40 CFR §60.4205(b)(2), which referred to 40 CFR §§89.111 and 112 or 40 CFR Part 60.  
[40 CFR §§60.4211(a)(3) and (c)(1)]
  - c. The permittee shall maintain the engine for generator set according to the manufacturer's emission-related written instructions.  
[40 CFR §60.4211(a)(1)]
  - d. The permittee shall only change those emission-related settings of the generator set that are permitted by the manufacturer.  
[40 CFR §60.4211(a)(2)]
  - e. The maximum name plate power output of the engine for each generator set shall not be greater than listed in Table 1.0 of this permit.
  - f. The engine will be equipped with a non-resettable hour meter.
  - g. Diesel fuel consumed in EG52 shall have a maximum sulfur content no greater than 15 ppm (ultra-low sulfur diesel) and with either a minimum centane index of 40 or a maximum aromatic content of 35 volume percent. Diesel meeting the specifications of Nonroad diesel under 40 CFR §80.510(b) is equivalent.  
[40 CFR §60.4207(b)]
- 4.1.7. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.  
[45CSR§13-5.11.]

## 4.2. Monitoring Requirements

- 4.2.1. The permittee shall inspect the visual indicators on each activate carbon drum control device, except for C6, in service at least once per week and determine if breakthrough has occurred. Indicator for Control Device C6 shall be inspected and determine if breakthrough has occurred within 24 hours of before engaging in tanker truck loading operations. Records of inspections shall be maintained in accordance with Condition 3.4.1.

- 4.2.2. The permittee shall sample and measure the outlet of each activate carbon drum control device in service at least once per calendar quarter determine if breakthrough has occurred using either IsoSense Sampling unit or other equivalent means that can detect MDI and TDI vapors down to at least 1 part per billion. Records of the results of measurements shall be maintained in accordance with Condition 3.4.1.
- 4.2.3. For the purposes of demonstrating compliance with the requirements of the closed vent system in Condition 4.1.3.f., the permittee shall conduct the following:
- a. Conduct an initial visual, olfactory, and auditory inspection for defects that could result in air emissions within 180 days after issuance of this permit. Defects include, but are not limited to, visible cracks, holes, or gaps in piping; loose connections; liquid leaks; or broken or missing caps or other closure devices.
  - b. After the initial, subsequent annual visual, olfactory, and auditory inspections shall be conducted for defect that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in piping; loose connections; liquid leaks; or broken or missing caps or other closure devices.
  - c. Detected leaks shall be repaired in accordance timing stated in Condition 4.1.1f.ii.
  - d. Records of such inspections shall be maintained in accordance with 3.4.1.
  - e. The use of the procedures listed as Alternative Methods to Method 21 (i.e. soapy water) to determine a leak or a leak has been repaired is acceptable.
- 4.2.4. The permittee shall monitor the process piping for equipment leaks in accordance with the following requirements:
- a. Conduct an initial visual, olfactory, and auditory inspection for defects that could result in air emissions within 180 days after issuance of this permit. Defects include, but are not limited to, visible cracks, holes, or gaps in piping; loose connections; liquid leaks; or broken or missing caps or other closure devices.
  - b. After the completion of the initial inspection, subsequent inspections shall be conducted in accordance with the following:
    - i. Visual inspection of the pump seals for visual indicators of leaking seals once per month.
    - ii. Conduct a visual, olfactory, and auditory inspection for defects that could result in air emissions within 13 months of the previous inspection of all of the process piping at the facility.
  - c. Detected leaks shall be repaired in accordance timing stated in Condition 4.1.3.f.ii.
  - d. Records of such inspections and any repaired made shall be maintained in accordance with Condition 3.4.1.
- 4.2.5. The permittee shall monitor pressure relief devices on continuous basis. The permittee shall record the date and time the release occurred at, duration of the release, the chemical(s) released, and amounts. Such records shall be maintained in accordance with Condition 3.4.1.

### **4.3. Testing Requirements**

*[Reserved]*

#### 4.4. Recordkeeping Requirements

4.4.1. **Record of Monitoring.** The permittee shall keep records of monitoring information that include the following:

- a. The date, place as defined in this permit, and time of sampling or measurements;
- b. The date(s) analyses were performed;
- c. The company or entity that performed the analyses;
- d. The analytical techniques or methods used;
- e. The results of the analyses; and
- f. The operating conditions existing at the time of sampling or measurement.

4.4.2. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

4.4.3. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

- a. The equipment involved.
- b. Steps taken to minimize emissions during the event.
- c. The duration of the event.
- d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

- e. The cause of the malfunction.
- f. Steps taken to correct the malfunction.
- g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

4.4.4. The permittee shall keep records of the hours of operation for the engines for the generator sets identified as EG51 and EG52. The records must document how many hours are spent for emergency operation, including what classified the operation as emergency, and how many hours were spent for non-emergency operation. Such records shall be maintained in accordance with Condition 3.4.1. and must be in a manner to demonstrate compliance with the operating limits of Condition 4.1.4.c. [40 CFR §60.4245(b) for EG51 and 40 CFR §60.4214(b) for EG52]

- 4.4.5. The permittee shall maintain records of MDI and TDI deliveries, production data, and any other information needed to determine MDI and TDI emissions on a calendar year basis using the latest emission calculators published by the American Chemistry Council and/or good engineering calculations.

**4.5. Reporting Requirements**

*[Reserved]*

CERTIFICATION OF DATA ACCURACY

I, the undersigned, hereby certify that, based on information and belief formed after reasonable inquiry, all information contained in the attached \_\_\_\_\_, representing the period beginning \_\_\_\_\_ and ending \_\_\_\_\_, and any supporting documents appended hereto, is true, accurate, and complete.

Signature<sup>1</sup> \_\_\_\_\_ Date \_\_\_\_\_  
(please use blue ink) Responsible Official or Authorized Representative

Name & Title \_\_\_\_\_  
(please print or type) Name Title

Telephone No. \_\_\_\_\_ Fax No. \_\_\_\_\_

<sup>1</sup> This form shall be signed by a "Responsible Official." "Responsible Official" means one of the following:

- a. For a corporation: The president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
  - (i) the facilities employ more than 250 persons or have a gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), or
  - (ii) the delegation of authority to such representative is approved in advance by the Director;
- b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
- c. For a municipality, State, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of U.S. EPA); or
- d. The designated representative delegated with such authority and approved in advance by the Director.



---

west virginia department of environmental protection

---

Division of Air Quality  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304-2345  
Phone: 304 926 0475 • Fax: 304 926 0479

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

## ENGINEERING EVALUATION/FACT SHEET

### B BACKGROUND INFORMATION

Application No.:	R13-2581B
Plant ID No.:	039-00031
Applicant:	Stockmeier Urethanes U.S.A. Inc.
Facility Name:	Clarksburg Facility
Location:	Clarksburg
NAICS Code:	325211
Application Type:	Modification
Received Date:	May 6, 2016
Engineer Assigned:	Edward S. Andrews, P.E.
Fee Amount:	\$2000.00
Date Received:	September 29, 2014
Complete Date:	August 4, 2016
Due Date:	November 2, 2016
Applicant Ad Date:	May 9, 2016
Newspaper:	<i>The Exponent-Telegram</i>
UTM's:	Easting: 560.882 km    Northing: 4,348.122 km    Zone: 17
Description:	This action is for the installation of three additional storage tanks, eight reactors, and two emergency generators.

### DESCRIPTION OF PROCESS

Stockmeier Urethanes USA is an automated Chemical Blending Facility that produces CASE (Coatings, Adhesives, Sealants and Elastomers) Urethanes for use in sports surfaces such as running tracks, children's playgrounds and artificial turf; decorative surfaces; weather-resistant elastomers for roofs, parking decks and trucks; structural adhesives for industrial applications; casting resins for cable, electrical and other technical applications; and ancillary products such as cleaners and catalysts.

Stockmeier bulk raw materials are unloaded from tanker trucks (TT) to various bulk storage tanks on site. Bulk isocyanates are unloaded into storage tanks S1-S6 and S12. Bulk

polyols are unloaded into storage tanks S7-S10 and S13. Additive AD-144233-PLS is unloaded into storage tank S11.

The bulk isocyanates (Bulk: ISO 01, ISO 02, ISO 03, ISO 04, MI 50 and ISO 06), which includes 4,4-methylene diphenyl diisocyanate (MDI), polymeric MDI (PMDI), and toluene diisocyanate (TDI), are used in Reactors R1 - R13 where they are mixed with various Polyols including (Bulk Polyols: Poly 02, 05, 06, ES 02 & Soy), bulk additive AD-144233-PLS and various other small component packaged items to manufacture products. Polyols and powders (dry materials) are blended in dispersion machines D1- DS to manufacture non-reacted dispersions. The processing conditions may include: nitrogen or atmospheric conditions, heating, cooling, pressurization and vacuum. After various mixing and/or reacting processing steps, the final products are transferred to drums, pails, intermediate bulk containers (IBC's), or bulk tanker trucks (TT) for shipment to our customers.

New equipment included in this permit application includes: One 6,000 gallon polyol storage tank (S13), one 6,700 gallon MDI storage tank (S12), and eight reactors (RS-8, R10-13) ranging in size from 275 gallons to 6,250 gallons, and one 4,000 gallon dispersion vessel (DS). Prospective new equipment included in this air permit update includes: A 20,000 gallon polyol storage tank for offloading railcars, and one 6,250 gallon reactor (R9).

Due to the addition of various pieces of equipment and new products, several new emission points and carbon adsorption control devices have been added to the manufacturing area.

The facility installed a 600 kW emergency generator to support the manufacturing operation in the event of interrupted electric power, which will be powered by 909 horsepower diesel fired engine with a 1000 gallon fuel cell. The administration office building currently has a Cummins 176 horsepower natural gas fired emergency generator in use. The engine models for both of these emergency generators were issued engine family numbers by U.S. EPA to be compliant with the applicable emission standards under 40 CFR Part 60.

## SITE INSPECTION

On July 14, 2016, this writer conducted an announced site visit of the Clarksburg Facility. Mr. Rocky Romine, Director of Operations & Environmental, Health, and Safety for Stockmeier Urethanes; Ms. Lori Steele, Senior Environmental Scientist for MSES Consultants; and Brian Woods, Senior Environmental Scientist for MSES Consultants, accompanied this writer during the visit.

This visit included a brief introductory meeting in the Administration Building, a walk through the process in the main manufacturing building and a brief closing meeting. The facility is located in an industrial park with other existing businesses nearby. The location of the facility is acceptable for the proposed type of emissions units.

Engineering Evaluation of R13-2581B  
Stockmeier Urethanes U.S.A. Inc.  
Clarksburg Facility  
Non-confidential



Figure 1 - Stockmeier Urethane USA, Inc. – Clarksburg Facility

### ESTIMATE OF EMISSION BY REVIEWING ENGINEER

MDI and TDI are classified as hazardous air pollutants (HAPs) under the Clean Air Act. Also, these two compounds are classified as volatile organic compounds (VOCs). Therefore, these materials are treated as two pollutants under the Clean Air Act.

The applicant used MDI/PMDI and the TDI Calculators that are available from the American Chemistry Council. The calculator provides a fast and convenient method to estimate MDI emissions from typical process activities used in the polyurethane industry. The calculator uses Microsoft Excel as an operating platform. Details and discussion of the equations used in the calculator can be found in “MDI/Polymeric MDI Emissions Reporting Guidelines for the Polyurethane Industry”, which are made available to the public at [www.americanchemistry.com](http://www.americanchemistry.com)

The MDI/PMDI Calculator was used to predict emissions from the working and breathing losses from the isocyanate tanks, filling-blending operations and fugitives emissions from equipment leaks. The TDI Calculator was used for tank losses, to predict fugitive emissions from equipment leaks, and other fugitive losses.

Engineering Evaluation of R13-2581B  
Stockmeier Urethanes U.S.A. Inc.  
Clarksburg Facility  
Non-confidential

The methods used in the MDI/PMDI Calculator for tank losses and filling & blending operations does not take into count the use of controls (i.e. activated carbon, blanket gas system) or the actual dimensions of the vessel. This calculator does require the user to input the volume of the vessel and ambient temperature with fluctuation range.

To determine if this calculator is predicting MDI and TDI emissions comparable to the methods outlined in AP-42, the writer used the Tank Losses tool in ProMax™ 4.0 to predict VOC emissions from isocyanate tanks. The Tank Losses tool in this process simulator is based on the equations published in AP-42 Chapter 7.1. This comparison is presented in the following table.

Table #1 – Compression Isocyanates Emissions from the Isocyanate Tanks							
Tank No.	MDI/PMDI Calculator			ProMax™ 4.0 Tank Losses			Throughput Gallons/yr
	Breathing Losses (lb/yr)	Working Losses (lb/yr)	Total lb/yr	Breathing Losses (lb/yr)	Working Losses (lb/yr)	Total (lb/yr)	
S1 (MDI)	2.78E-5	1.36E-3	0.001	6.55E-5	2.71E-4	0.0003	963,496
S2 (MDI)	6.31E-6	1.16E-4	0.0001	1.82E-5	1.66E-5	0.00003	82,4482
S3 (MDI)	6.31E-6	4.68E-4	0.0005	1.82E-5	6.55E-5	0.0001	332,818
S4 (MDI)	6.31E-6	8.23E-4	0.0008	1.82E-5	7.48E-5	0.0001	584,825
S5 (TDI)	5.19E-1	1.25E-2	0.5315	6.53E-5	1.93E-4	0.0003	262,440
S6 (S103/TDI)	6.62E-2	5.19E-1	0.527	9.16E-6	6.16E-5	0.0001	262,440
S12 (MDI)	5.28E-6	1.13E-3	0.0011	1.39E-5	1.52E-4	0.0002	804,702
Totals			1.062			0.0011	3,772,763

The writer concluded that the calculation used to determine the breathing and working losses used in the MDI/PMDI Calculator is more conservative that the method outlined in AP-42. For TDI, the writer had to treat TDI as a single oil by entering in the molecular weight and specific gravity. ProMax calculated the vapor pressured of this single oil (TDI) at 3.01E-4 mmHg. The calculated vapor pressure of this simulated TDI should have been around 1.20E-1 mmHg, which is the actual vapor pressure of TDI at 113 degrees Fahrenheit. Because the calculated vapor pressure of the simulated TDI was significantly less that actual, the predicted VOC emissions using the Tank Losses Stencil under predicted the emissions from Tanks S5 and S6.

In the application, the applicant assumed the VOC emissions from the polyol to be negligible. The writer estimated the VOC emissions from all 6 polyols and one (1) soy oil tanks to be 53.5 pounds per year, which includes working and breathing losses. The tank losses calculations were performed using ProMax 4.0 and treating the polyols and soy oil as a single oil with a molecular weight of 2,000 lb/lb-mole and 879.4 lb/lb-mole with a specific gravity of 1.02 and 0.79 respectively.

Engineering Evaluation of R13-2581B  
 Stockmeier Urethanes U.S.A. Inc.  
 Clarksburg Facility  
 Non-confidential

The writer verified the applicant's emission estimates from the filling-blending operations and fugitive MDI using the MDI/PMDI calculator. The TDI calculator was used to determine the fugitive TDI emissions from equipment leaks. These estimates are presented in the following table.

Table #2 Other MDI and TDI emissions		
Source	Type of Emissions	Annual Emissions (lb/yr)
Blending-Filling Operations	MDI	0.2
Fugitive – Monitoring	MDI	26.4
Fugitive – Equipment Leaks	MDI	0.6
Fugitive – Monitoring	TDI	551.0
Fugitive – Equipment Leaks	TDI	129.0
Total		707.2

The equipment leaks were based on the number of components either in contact with MDI or TDI. The fugitive monitoring emissions were based on measured concentration of MDI and TDI at another facility using the dimensions of the Clarksburg Facility.

These emission estimates are before controls. Stockmeier has proposed to vent all of the reactors and storage tanks except for two of the polyol storage tanks (S13 and S14) to a carbon drum to control organic compounds. In addition, all of the storage tanks are operated using a blanket gas system to control the water content in the vapor space of the storage vessel. The applicant claimed that this type of absorption control system would have a control efficiency of 99% for organic compounds to include MDI and TDI. The writer believes that these emissions are reduced nearly to zero until the carbon drum becomes completely saturated with organics in which breakthrough occurs and at that point the control efficiency of the drum is zero until the saturated carbon is replaced.

The applicant proposed a 1,200 pound per year emission limit for MDI and TDI. This limit is creates a 240% margin of compliance. Normally, this percentage for the margin of compliance would not be acceptable. The facility is a custom order urethane provider with customers requiring different unique urethane mixtures for different industry sectors producing a wide variety of products. Thus, the urethanes prepared today will not be the same mixture as tomorrow. Therefore, the emission rates will be very different.

Second, the applicant proposed a VOC limit of one ton for each of the six (6) emission points that the tanks and reactors are vented. For each of the six emission points, the applicant proposed 1 ton of VOCs per year with 0.1 tons being MDI and TDI.

The writer assumed any VOC, MDI or TDI emissions due to clean-up activities would be accounted for in the fugitive emissions potential using the monitoring data in the MDI and TDI calculators. Stockmeier uses two different solvents for clean-up activities which are acetone, which is not classified as a VOC, and tripropyleneglycol methyl ether, which has low vapor

pressure. These two cleaning solvents would not significantly contribute to the fugitive emissions.

The other sources of emissions at the facility are combustion engines for the emergency generators. These emissions are presented in the following table.

Generator Set Name		100 kW Generator	600 kW Generator	
Engine Manufacturer		Cummins	Perkins	
Model		200DGFC	D20P1	
Year Manufactured		2014	2015	
Fuel Consumption Rate		1,355 scf/hr	41.4 gal/hr	
Brake Horsepower (Bhp)		149	909	
Fuel Type		Natural Gas	Diesel	Totals
Particulate Matter (PM)/PM <sub>10</sub> /PM <sub>2.5</sub>	EF (g/Hp-hour)	0.04	0.05 <sup>1</sup>	
	Lb/hr	0.013	0.10	0.113
	TPY <sup>2</sup>	0.01	0.025	0.035
Oxides of Nitrogen (NO <sub>x</sub> )	EF (g/Hp-hour)	0.16	3.88	
	lb/hr	0.03	7.78*	7.81
	TPY <sup>2</sup>	0.04	1.95*	1.99
Sulfur Dioxide (SO <sub>2</sub> )	EF <sup>4</sup>	0.004	0.004	
	lb/hr	0.07	0.17	0.21
	TPY <sup>2</sup>	0.02	0.04	0.06
Carbon Monoxide (CO)	EF <sup>1</sup> (g/Hp-hour)	0.9	0.6	
	lb/hr	0.30	1.20	1.5
	TPY <sup>2</sup>	0.08	0.30	0.38
Volatile Organic Compounds (VOC)	EF <sup>1</sup> (g/Hp-hour)	0.42	*	
	lb/hr	0.14	3.89	4.03
	TPY <sup>2</sup>	0.04	0.97	1.01
Formaldehyde (HAP)	EF <sup>2</sup> (lb/MMBtu)	0.0317	0.0012	
	lb/hr	0.04	0.01	0.05
	TPY <sup>2</sup>	0.01	0.00	0.01
Carbon Dioxide Equivalent (CO <sub>2e</sub> )	EF <sup>3</sup> (lb/MMBtu)	117.098	163.22	
	lb/hr	165.01	878.45	1,043.47
	TPY <sup>2</sup>	41.25	219.61	260.86

1 – Manufacturer Emission Data

2 – AP-42 Emission Factors from Chapters 3.2 for natural gas engine and 3.3. for diesel engine

3 – Based on factors in 40 CFR 98 Subpart C

4 – Based on maximum sulfur content in fuel.

\* - Manufacturer's data combined NO<sub>x</sub> + non methane hydrocarbons (NMHC) as one pollutant.

The following table is a summary of the facility's new potential to emit with the proposed changes.

Table #4 - Summary of the Facility Potential to Emit			
Pollutant	Current Permit Limit (tpy)	Proposed Emission Limits (tpy)	Net Change in Emissions (tpy)
CO	0.00	0.38	0.38
NO <sub>x</sub>	0.00	1.99	1.99
PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.00	0.04	0.04
SO <sub>2</sub>	0.00	0.06	0.06
VOC	1.48	6.03	4.55
MDI	0.20	0.60	0.40
TDI	0.20	0.60	0.40
Formaldehyde	0.00	0.01	0.01
Total HAPs*	0.95	1.21	0.26
CO <sub>2e</sub>	0.00	260.86	260.86

\* The facility was permitted for 0.45 tons per year of xylene and 0.1 tons per year of ethylbenzene emissions in Permit R13-2581, both of these are HAPs. The facility does not consume materials that contains these compounds. This accounts for the difference in the facility's increase in total HAPs.

## REGULATORY APPLICABILITY

### **STATE RULES**

The Clarksburg Facility is subject one state rule due to activities involved in a manufacturing process, which is 45 CSR 7 (Rule 7). The main source of particulate matter emissions from the process is when solids are added to the vats for the dispersion machines, which should be considered as material handling activities. Under Rule 7, the rule requires the fugitive dust from such support activities to the manufacturing process to be minimized. Stockmeier Urethanes has installed a duct system that connects each of the dispersion machines to a Donaldson four (4) cartridge dust collector with a collection efficiency of 99% for particulate matter. This dust collector vents within the manufacturing building. This level of control of fugitive particulate matter satisfies 45 CSR §7-5.1.

MDI and TDI are not defined as toxic air pollutants in 45 CSR 27 and therefore 45 CSR 27 does not apply to this facility.

### **FEDERAL REGULATIONS**

#### New Source Performance Standards (NSPS)

The NSPS regulations currently apply to numerous categories of sources. These standards typically impose emission limitations and operating requirements specific to each source category.

Engineering Evaluation of R13-2581B  
 Stockmeier Urethanes U.S.A. Inc.  
 Clarksburg Facility  
 Non-confidential

A number of the following NSPS rules promulgated in 40 CFR Part 60 have potential applicability to the proposed project. The applicability of each rule is evaluated below.

Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 – This rule applies to storage tanks with capacities of at least 75 cubic meters (19,800 gallons) that contain volatile organic liquids. However, the rule exempts tanks meeting either of the following conditions:

- Tanks greater than 151 cubic meters (39,900 gallons) containing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) (26.3 mm Hg); or
- Tanks between 75 and 151 cubic meters containing a liquid with a maximum true vapor pressure less than 15 kPa (112.5 mm Hg).

Stockmeier proposed to install a vessel that has the capacity to store 20,000 gallons of an organic liquid, which is identified as S14 that will store Polyol 05. This vessel meets the size criteria for applicability. Stockmeier claims that the vapor pressure of the organic liquid is less than 1 mm Hg. The writer conducted a true vapor pressure analysis using a process simulator (ProMax 4.0) of the liquid used to predict the VOC emissions from the Polyol storage tanks, which was 0.12 mm Hg. Thus, the true vapor pressure criteria is not satisfied and Storage Tank S14 is not an affected source under Subpart Kb.

Subpart DDD - Standards of Performance for VOC Emissions from the Polymer Manufacturing Industry – This rule applies to facilities manufacturing one or more of the following polymers: polypropylene, polyethylene, polystyrene, or poly (ethylene terephthalate). Since the facility will not manufacture any of these compounds, this rule does not apply.

Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines – This rule applies to stationary compression (diesel-fired) engines manufactured after April 1, 2006. Stockmeier has installed a stationary, diesel-fired engine that was manufactured in 2015. Therefore, this regulation applies to the 600 kW emergency generator identified as EG52. This 2015 Model Year Perkins engine used in this generator set was evaluated and determined to be a certified model engine by U.S. EPA under Engine Family No. FCPXL18.1NYS.

Thus, the applicant has chosen to comply with the certified engine option in this regulation. Therefore, the applicant is required to maintain the emission related setting of the engine within the manufacturer's specifications and use ultra-low sulfur diesel fuel. This engine was certified under the emergency use standards. Thus, the generator set can only be operated for 50 hours per year for maintenance and readiness checks and additional 50 hours per year for other non-emergency purposes other than peak shaving. There is no limit on operating hours for emergency operations.

Engineering Evaluation of R13-2581B  
Stockmeier Urethanes U.S.A. Inc.  
Clarksburg Facility  
Non-confidential

Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines – This rule applies to stationary spark ignition (gas-fired engines) constructed after June 12, 2006. Stockmeier Urethanes has installed a stationary gas-fired engine manufactured in 2014. Therefore, this regulation applies to the 100 kW emergency generator identified as EG51. This 2014 Model Year Generac engine used in this generator set was evaluated and determined to be a compliance model engine by U.S. EPA under Engine Family No. EGNXB06.82C1.

Thus, the applicant has chosen to comply with the complaint engine option in this regulation. Therefore, the applicant is required to maintain the emission related setting of the engine within the manufacturer's specifications and use ultra-low sulfur diesel fuel. This engine was certified under the emergency use standards. Thus, the generator set can only be operated for 50 hours per year for maintenance and readiness checks and additional 50 hours per year for other non-emergency purposes other than peak shaving. There is no limit on operating hours for emergency operations.

#### National Emission Standards for Hazardous Air Pollutants

The NESHAP regulations apply to the following compounds listed as hazardous air pollutants (HAPs) prior to the passage of the Clean Air Act Amendments of 1990 (CAAA): asbestos, benzene, beryllium, coke oven emissions, inorganic arsenic, mercury, radionuclides, and vinyl chloride. The regulations list emission limits, operating parameters, and other requirements that must be followed for specifically listed source types that emit these compounds. NESHAP regulations do not apply to this application because the new operation will not emit any of these air contaminants.

#### Maximum Achievable Control Technology and Generally Available Control Technology Standards

Historically, MACT standards have been promulgated for numerous categories of major HAP sources (those with potential emissions of 10 or more tons per year of any individual HAP or 25 tons per year of combined HAPs). EPA has recently begun promulgating Generally Available Control Technology (GACT) standards for area (minor) sources of HAPs. MACT and GACT standards typically impose emission limitations; operating practices; and monitoring, recordkeeping, and reporting requirements on affected facilities. Based on a review of HAP emission data, the proposed operation will be a natural minor (area) HAP source.

With the proposed modification, the Clarksburg Facility will have a potential to emit of total HAPs of 1.21 tons per year, which is less than the major source threshold. Thus, the Clarksburg Facility is classified as an area source of HAPs. The following area source GACT standards promulgated in 40 CFR Part 63 have potential applicability to this project for area sources.

Engineering Evaluation of R13-2581B  
Stockmeier Urethanes U.S.A. Inc.  
Clarksburg Facility  
Non-confidential

Area Source GACT Rules – The following rules are applicable to area (minor) HAP sources:

Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines – This rule applies to major and area sources of HAPs that have stationary reciprocating internal combustion engines (RICE). The Clarksburg Facility has two stationary internal combustion engines and is classified as an area source of HAPs. Under 40 CFR §63.6590(c), RICE that is subject and complies to regulations under 40 CFR Part 60, which includes Subparts IIII and JJJJ, and meets any of the criteria in (c)(1) through (c)(7) of §63.6590 that no further requirements of Subpart ZZZZ apply to the engine. The two emergency generators are subject to Part 60 requirements and were installed after January 18, 2008, which classify these engines as “new” under Subpart ZZZZ. Thus, the two generator sets satisfy that criteria of §63.6590(c)(1) of being new RICEs located at an area source of HAPs. Therefore, no further requirement of Subpart ZZZZ apply to these two RICEs.

Subpart DDDDDD – National Emission Standards for Hazardous Air Pollutants for Polyvinyl Chloride and Copolymers Production Area Sources – This rule applies to facilities that manufacture PVC or copolymers. Stockmeier will not manufacture either of these chemicals. Therefore, this rule will not apply.

40 CFR 63, Subpart JJJJJJ, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers: Area Sources – This rule applies to new and existing boilers located at area HAP sources. Stockmeier will not be installing any boilers. Therefore, this rule will not apply.

Subpart VVVVVV – National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources – This rule applies to chemical manufacturing process units (CMPUs) at area HAP sources that use or produce 1,3-butadiene; 1,3-dichloropropene; acetaldehyde; chloroform; ethylene dichloride; hexachlorobenzene; methylene chloride; quinolone; arsenic compounds; cadmium compounds; chromium compounds; lead compounds; manganese compounds; nickel compounds; and hydrazine. None of these chemicals will be used or produced at the facility. Therefore, this rule does not apply.

#### Prevention of Significant Deterioration of Air Quality (PSD)

The purpose of the PSD rules is to maintain air quality in areas that are meeting the National Ambient Air Quality Standards. Harrison County is an attainment area for all criteria pollutants. Chemical process plants, which include Stockmeier’s operations, are one of the 28 listed source categories for which the major source threshold is 100 ton/yr. Since the emissions of all pollutants from the new project will be well below this threshold, the PSD rules will not apply.

#### Nonattainment New Source Review (NNSR) (45 CSR 19)

The NNSR regulations apply in nonattainment areas, i.e., areas that are not meeting the National Ambient Air Quality Standards (NAAQS) for one or more air contaminants. The purpose of the NNSR regulations is to allow for industrial and economic growth in nonattainment areas while

Engineering Evaluation of R13-2581B  
Stockmeier Urethanes U.S.A. Inc.  
Clarksburg Facility  
Non-confidential

progressing toward the attainment of NAAQS. Harrison County is in attainment status for all of the criteria pollutants. Therefore, the NNSR rule does not apply for this particular application.

Rule 30, Requirements for Operating Permits – Stockmeier will not be required to obtain an operating permit because it is not a major source, is not subject to Section 111 or 112 of the Clean Air Act, and is not an affected facility subject to Title IV of the Clean Air Act (Acid Deposition Control).

### TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

The proposed changes to the Clarksburg Facility will not change the status of the facility (area source of HAP). Thus, the potential to emit of combined hazardous air pollutants will remain to be less than 25 tons per year for combined HAP with no single hazardous air pollutant (MDI or TDI) being greater than 10 tons per year. Therefore, no further information was provided on the toxicology of the HAPs emitted at the Clarksburg facility.

### AIR QUALITY IMPACT ANALYSIS

The writer deemed that an air dispersion modeling study or analysis was not necessary, because the proposed modification does not meet the definition of a major source as defined in 45CSR14.

### MONITORING OF OPERATIONS

The writer recommends the following monitoring requirements:

- Record the production rates by product and number of batches from production unit;
- Record the amount of basic feed stock materials delivered;
- Monitor the breakthrough indicators on the carbon drum control devices on a weekly basis except for C6 (Bulk tanker loadout station).
- Monitor the breakthrough indicator on C6 prior to each loading of a tanker trailer.
- Verify the carbon drum indicators using an IsoSence Sampling Unit or other instrument that measures isocyanate compounds (MDI and TDI) vapors or aerosols down to concentration levels of one (1) part per billion (ppb) on a quarterly basis.
- Monitoring the pressure relief devices on the storage tanks and reactors.
- Establish a leak detection and repair program for the process piping and vapor collection systems.

Engineering Evaluation of R13-2581B  
Stockmeier Urethanes U.S.A. Inc.  
Clarksburg Facility  
Non-confidential

The writer consider requiring the facility to calculate the MDI and TDI emission on a set frequency. The MDI and TDI calculators are predicting emissions before controls. These controls do not control every source of emissions at the facility (S13, S14, and the fill stations). Even before controls, the MDI and TDI emissions rates are fairly low (less that one ton per year).

The writer believes that the permit needs to focus on the work practices and monitoring of the controls instead of throughput rates or emission rates for this particular facility.

#### CHANGES TO PERMIT R13-2851

Permit R13-2851 relied on individual throughput limits on the storage vessels and filling stations with emission limits on the corresponding emission point. These emission units were vented to dedicated carbon drum control device. However, the permit only required the carbon be replaced once per year.

Even adopting the proposed emission limits, which is beyond what was predicted using the MDI and TDI, and establishing corresponding throughput limits would limit the facility at some future point in time with actual emissions not exceeding the limit. The writer believes that the appropriate course of action for this permitting action would be to restructure the permit to focus on the monitoring of the control device for detecting when breakthrough occurs and replacing the saturated carbon in a timely fashion with practical requirements to minimize fugitive emissions (i.e. LDAR program).

#### RECOMMENDATION TO DIRECTOR

The information provided in the permit application indicates the proposed modification of the facility will meet all the requirements of the applicable rules and regulations when operated in accordance with the permit application. Therefore, the writer recommends granting Stockmeier Urethanes U.S.A. Inc. a Rule 13 modification permit for their polyurethane manufacturing facility located at 20 Columbia Boulevard in Clarksburg, WV.



Edward S. Andrews, P.E.  
Engineer

September 6, 2016  
Date

Engineering Evaluation of R13-2581B  
Stockmeier Urethanes U.S.A. Inc.  
Clarksburg Facility  
Non-confidential

**Andrews, Edward S**

---

**From:** Lori Steele <lsteale@mSESinc.com>  
**Sent:** Thursday, August 18, 2016 8:33 AM  
**To:** Andrews, Edward S  
**Subject:** Stockmeier draft permit  
**Attachments:** Pre-Draft Permit from DAQ LSteele revisions 08-15-16.docx

Hi Ed,

Attached is my mark-up of the Stockmeier permit. Anything I changed or questioned is in **RED**.

I didn't have very many corrections or questions.

Lori

--  
Lori Steele  
Senior Environmental Scientist  
MSES consultants, inc.  
609 West Main Street  
Clarksburg, WV 26301  
304-624-9700 Office  
304-622-0981 Fax  
[lsteale@mSESinc.com](mailto:lsteale@mSESinc.com)

*Entire Document*  
**NON-CONFIDENTIAL**



This email has been checked for viruses by Avast antivirus software.

[www.avast.com](http://www.avast.com)

ID # 033-150  
Reg R13-2581B  
Company Stockmeier  
Facility Clarksburg Initials \_\_\_\_\_



This permit will **supersede** and replace Permit R13-2581.  
Facility Location: 20 Columbia Boulevard  
Clarksburg, Harrison County, West Virginia  
Mailing Address: P.O. Box 1456  
Clarksburg, WV 26302-1456  
Facility Description: Chemical Blending Facility  
NAICS Codes: 325211  
UTM Coordinates: 560.882 km Easting • 4,348.122 km Northing • Zone 17  
Permit Type: Modification  
Description of Change: This action is for the installation of three additional storage tanks, eight reactors, and two emergency generators.

*Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [ §§22B-1-1 et seq. ], Chapter 22B of the Code of West Virginia. West Virginia Code §§22-5-14.*

---

*The source is not subject to 45CSR30.*

**Table of Contents**

<b>1.0.</b>	<b>Emission Units</b> .....	<b>4</b>
<b>2.0.</b>	<b>General Conditions</b> .....	<b>6</b>
2.1.	Definitions .....	6
2.2.	Acronyms .....	6
2.3.	Authority .....	7
2.4.	Term and Renewal.....	7
2.5.	Duty to Comply .....	7
2.6.	Duty to Provide Information.....	7
2.7.	Duty to Supplement and Correct Information .....	8
2.8.	Administrative Update.....	8
2.9.	Permit Modification.....	8
2.10.	Major Permit Modification.....	8
2.11.	Inspection and Entry .....	8
2.12.	Emergency .....	8
2.13.	Need to Halt or Reduce Activity Not a Defense.....	9
2.14.	Suspension of Activities .....	9
2.15.	Property Rights.....	9
2.16.	Severability.....	10
2.17.	Transferability .....	10
2.18.	Notification Requirements.....	10
2.19.	Credible Evidence .....	10
<b>3.0.</b>	<b>Facility-Wide Requirements</b> .....	<b>11</b>
3.1.	Limitations and Standards .....	11
3.2.	Monitoring Requirements.....	11
3.3.	Testing Requirements .....	11
3.4.	Recordkeeping Requirements.....	12
3.5.	Reporting Requirements .....	13
<b>4.0.</b>	<b>Source-Specific Requirements</b> .....	<b>15</b>
4.1.	Limitations and Standards .....	15
4.2.	Monitoring Requirements.....	17
4.3.	Testing Requirements .....	19
4.4.	Recordkeeping Requirements.....	19
4.5.	Reporting Requirements .....	20
	<b>CERTIFICATION OF DATA ACCURACY</b> .....	<b>21</b>

**1.0. Emission Units**

<b>Emission Unit ID</b>	<b>Emission Point ID</b>	<b>Emission Unit Description</b>	<b>Year Installed</b>	<b>Design Capacity</b>	<b>Control Device</b>
S1	E1	Isocyanate Storage Tank Iso04	2004	12,000 gal	C2
S2	E1	Isocyanate Storage Tank Iso03	2004	8,000 gal	C2
S3	E1	Isocyanate Storage Tank Iso02	2004	8,000 gal	C2
S4	E1	Isocyanate Storage Tank Iso01	2004	8,000 gal	C2
S5	E1	Isocyanate Storage Tank Iso04	2004	8,000 gal	C2
S6	E1	Isocyanate Storage Tank TDI	2004	5,000 gal	C3
S7	E1	Polyol Storage Tank Plyol05	2004	12,000 gal	C1
S8	E1	Polyol Storage Tank Plyol06	2004	8,000 gal	C1
S9	E1	Polyol Storage Tank Plyol03	2004	8,000 gal	C1
S10	E1	Polyol Storage Tank Plyol06	2004	8,000 gal	C1
S11	E1	AD-144233_PLS Storage Tank Soy	2004	8,000 gal	C1
S12	E6	Polyol Storage Tank	2015	6,700 gal	C8
S13	E7	Isocyanate Storage Tank MDI	2015	6,000 gal	None
S14	E1	Polyol Storage Tank ES 02	2016	20,000 gal	None
D1	E3	Dispersion Machine 1	2004	4,000 gal	D1VP & C9
D1VP	E3	Vacuum Pump for D1	2004	N/A	C5
D2	Bldg.	Dispersion Machine 2	2004		C9
D3	Bldg.	Dispersion Machine 3	2004		C9
D4		Dispersion Machine 4 for (R&D purposes)	2004		
D5	E2	Dispersion Machine 5	2014	4,000 gal	C9
R1	E1	Reactor 1	2004	3,000 gal	C3
R2	E1	Reactor 2	2004	3,000 gal	C3
R3	E1	Reactor 3	2004	1,500 gal	C3
R5	E6	Reactor 5 w/vacuum pump	2015	675 gal	C8
R6	E6	Reactor 6 w/vacuum pump	2015	600 gal	C8
R7	E6	Reactor 7 w/vacuum pump	2015	1,718 gal	C8
R7DV	E5	Reactor 7 Drum Vent	2015	N/A	C7
R8	E6	Reactor 8	2015	6,250 gal	C8
R9	E6	Reactor 9	2016	6,250 gal	C8
R10	E6	Reactor 10 w/vacuum pump	2015	1,000 gal	C8
R11	E5	Reactor 11	2015	5,000 gal	C7
R12	E5	Reactor 12	2015	5,000 gal	C7
R13	E5	Reactor 13 w/vacuum pump	2015	275 gal	C7

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
FS4	Bldg.	Filling Station 4	2004	N/A	None
FS6	Bldg.	Filling Station 6	2004	N/A	None
M1	Bldg.	Mixing Machine 1	2004		None
M2	Bldg.	Mixing Machine 2	2004		None
M3	Bldg.	Mixing Machine 3	2004		None
M4	Bldg.	Mixing Machine 4	2004		None
BFS	E4	Bulk Filing Station Tanker Trucker Loading Station	2015	1 Bay	C6 & Covered
O1	Bldg.	Electric Oven	2015		Bldg.
O2	Bldg.	Electric Oven	2015		Bldg.
O3	Bldg.	Electric Oven	2015		Bldg.
EG51	51E	100 kW Emergency Generator Generac QT100 w/NG Fired Engine EPA Certification #EGNXB06.82-029	2014	149 bhp	
EG52	52E	600 kW Emergency Generator Generac Generator Set Perkins Compression Ignition Engine Manufactured Date: Nov 2015 EPA Certification #FCPXL18.1NYS-010	2016	909 bhp	None

Control Device ID No.	Control Device	Type of Control	Emission Point ID No.
C1	Carbon Drum	Granular Activated Carbon Absorber	E1
C2	Carbon Drum	Granular Activated Carbon Absorber	E1
C3	Carbon Drum	Granular Activated Carbon Absorber	E1
C4	Carbon Drum	Granular Activated Carbon Absorber	E2
C5	Carbon Drum	Granular Activated Carbon Absorber	E3
C6	Carbon Drum	Granular Activated Carbon Absorber	E4
C7	Carbon Drum	Granular Activated Carbon Absorber	E5
C8	Carbon Drum	Granular Activated Carbon Absorber	E6
C9	Dust Collector	4 Cartridge Fabric Filter Dust Collector	Bldg.

C9 only controls particulate matter emissions from the dispersion machines when solids are being added during the process. The discharge of this control device is released within the building.

## 2.0. General Conditions

### 2.1. Definitions

- 2.1.1. All references to the “West Virginia Air Pollution Control Act” or the “Air Pollution Control Act” mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.
- 2.1.2. The “Clean Air Act” means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.
- 2.1.3. “Secretary” means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary’s designated representative for the purposes of this permit.

### 2.2. Acronyms

<b>CAAA</b>	Clean Air Act Amendments	<b>NO<sub>x</sub></b>	Nitrogen Oxides
<b>CBI</b>	Confidential Business Information	<b>NSPS</b>	New Source Performance Standards
<b>CEM</b>	Continuous Emission Monitor	<b>PM</b>	Particulate Matter
<b>CES</b>	Certified Emission Statement	<b>PM<sub>2.5</sub></b>	Particulate Matter less than 2.5 μm in diameter
<b>C.F.R. or CFR</b>	Code of Federal Regulations	<b>PM<sub>10</sub></b>	Particulate Matter less than 10μm in diameter
<b>CO</b>	Carbon Monoxide	<b>Ppb</b>	Pounds per Batch
<b>C.S.R. or CSR</b>	Codes of State Rules	<b>Pph</b>	Pounds per Hour
<b>DAQ</b>	Division of Air Quality	<b>Ppm</b>	Parts per Million
<b>DEP</b>	Department of Environmental Protection	<b>Ppm<sub>v</sub> or ppm<sub>v</sub></b>	Parts per Million by Volume
<b>dscm</b>	Dry Standard Cubic Meter	<b>PSD</b>	Prevention of Significant Deterioration
<b>FOIA</b>	Freedom of Information Act	<b>Psi</b>	Pounds per Square Inch
<b>HAP</b>	Hazardous Air Pollutant	<b>SIC</b>	Standard Industrial Classification
<b>HON</b>	Hazardous Organic NESHAP	<b>SIP</b>	State Implementation Plan
<b>HP</b>	Horsepower	<b>SO<sub>2</sub></b>	Sulfur Dioxide
<b>lbs/hr</b>	Pounds per Hour	<b>TAP</b>	Toxic Air Pollutant
<b>LDAR</b>	Leak Detection and Repair	<b>TPY</b>	Tons per Year
<b>M</b>	Thousand	<b>TRS</b>	Total Reduced Sulfur
<b>MACT</b>	Maximum Achievable Control Technology	<b>TSP</b>	Total Suspended Particulate
<b>MDHI</b>	Maximum Design Heat Input	<b>USEPA</b>	United States Environmental Protection Agency
<b>MM</b>	Million	<b>UTM</b>	Universal Transverse Mercator
<b>MMBtu/hr or mmbtu/hr</b>	Million British Thermal Units per Hour	<b>VEE</b>	Visual Emissions Evaluation
<b>MMCF/hr or mmcf/hr</b>	Million Cubic Feet per Hour	<b>VOC</b>	Volatile Organic Compounds
<b>NA</b>	Not Applicable	<b>VOL</b>	Volatile Organic Liquids
<b>NAAQS</b>	National Ambient Air Quality Standards		
<b>NESHAPS</b>	National Emissions Standards for Hazardous Air Pollutants		

### **2.3. Authority**

This permit is issued in accordance with West Virginia Air Pollution Control Act W.Va. Code §§ 22-5-1. et seq. and the following Legislative Rules promulgated thereunder:

- 2.3.1. 45CSR13 – *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation;*

### **2.4. Term and Renewal**

- 2.4.1. This permit supersedes and replaces previously issued Permit R13-2581. This Permit shall remain valid, continuous and in effect unless it is revised, suspended, revoked or otherwise changed under an applicable provision of 45CSR13 or any other applicable legislative rule;

### **2.5. Duty to Comply**

- 2.5.1. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Application R13-2581. R13-2581B, and any modifications, administrative updates, or amendments thereto. The Secretary may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to; [45CSR§§13-5.11 and 10.3.]
- 2.5.2. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA;
- 2.5.3. Violations of any of the conditions contained in this permit, or incorporated herein by reference, may subject the permittee to civil and/or criminal penalties for each violation and further action or remedies as provided by West Virginia Code 22-5-6 and 22-5-7;
- 2.5.4. Approval of this permit does not relieve the permittee herein of the responsibility to apply for and obtain all other permits, licenses, and/or approvals from other agencies; i.e., local, state, and federal, which may have jurisdiction over the construction and/or operation of the source(s) and/or facility herein permitted.

### **2.6. Duty to Provide Information**

The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for administratively updating, modifying, revoking, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.

## **2.7. Duty to Supplement and Correct Information**

Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.

## **2.8. Administrative Update**

The permittee may request an administrative update to this permit as defined in and according to the procedures specified in 45CSR13.  
[45CSR§13-4.]

## **2.9. Permit Modification**

The permittee may request a minor modification to this permit as defined in and according to the procedures specified in 45CSR13.  
[45CSR§13-5.4.]

## **2.10 Major Permit Modification**

The permittee may request a major modification as defined in and according to the procedures specified in 45CSR14 or 45CSR19, as appropriate.  
[45CSR§13-5.1]

## **2.11. Inspection and Entry**

The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

- a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
- d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

## **2.12. Emergency**

- 2.12.1. An "emergency" means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by

improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

- 2.12.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of Section 2.12.3 are met.
- 2.12.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
  - a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
  - b. The permitted facility was at the time being properly operated;
  - c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
  - d. The permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.
- 2.12.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
- 2.12.5 The provisions of this section are in addition to any emergency or upset provision contained in any applicable requirement.

### **2.13. Need to Halt or Reduce Activity Not a Defense**

It shall not be a defense for a permittee in an enforcement action that it should have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.

### **2.14. Suspension of Activities**

In the event the permittee should deem it necessary to suspend, for a period in excess of sixty (60) consecutive calendar days, the operations authorized by this permit, the permittee shall notify the Secretary, in writing, within two (2) calendar weeks of the passing of the sixtieth (60) day of the suspension period.

### **2.15. Property Rights**

This permit does not convey any property rights of any sort or any exclusive privilege.

**2.16. Severability**

The provisions of this permit are severable and should any provision(s) be declared by a court of competent jurisdiction to be invalid or unenforceable, all other provisions shall remain in full force and effect.

**2.17. Transferability**

This permit is transferable in accordance with the requirements outlined in Section 10.1 of 45CSR13. [45CSR§13-10.1.]

**2.18. Notification Requirements**

The permittee shall notify the Secretary, in writing, no later than thirty (30) calendar days after the actual startup of the operations authorized under this permit.

**2.19. Credible Evidence**

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defense otherwise available to the permittee including, but not limited to, any challenge to the credible evidence rule in the context of any future proceeding.

### **3.0. Facility-Wide Requirements**

#### **3.1. Limitations and Standards**

- 3.1.1. **Open burning.** The open burning of refuse by any person, firm, corporation, association or public agency is prohibited except as noted in 45CSR§6-3.1.  
[45CSR§6-3.1.]
- 3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause, suffer, allow or permit any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.  
[45CSR§6-3.2.]
- 3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management, and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.  
[40CFR§61.145(b) and 45CSR§34]
- 3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.  
[45CSR§4-3.1] *[State Enforceable Only]*
- 3.1.5. **Permanent shutdown.** A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shutdown, unless such source can provide to the Secretary, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shutdown.  
[45CSR§13-10.5.]
- 3.1.6. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.  
[45CSR§11-5.2.]

#### **3.2. Monitoring Requirements**

*[Reserved]*

#### **3.3. Testing Requirements**

- 3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary

exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

- a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.
- b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.
- c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.
- d. The permittee shall submit a report of the results of the stack test within sixty (60) days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1.; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:
  1. The permit or rule evaluated, with the citation number and language;
  2. The result of the test for each permit or rule condition; and,
  3. A statement of compliance or noncompliance with each permit or rule condition.

[WV Code § 22-5-4(a)(14-15) and 45CSR13]

### **3.4. Recordkeeping Requirements**

- 3.4.1. **Retention of records.** The permittee shall maintain records of all information (including monitoring data, support information, reports, and notifications) required by this permit recorded in a form suitable and readily available for expeditious inspection and review. Support

information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation. The files shall be maintained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two (2) years of data shall be maintained on site. The remaining three (3) years of data may be maintained off site, but must remain accessible within a reasonable time. Where appropriate, the permittee may maintain records electronically (on a computer, on computer floppy disks, CDs, DVDs, or magnetic tape disks), on microfilm, or on microfiche.

- 3.4.2. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.  
[45CSR§4. *State Enforceable Only.*]

### 3.5. Reporting Requirements

- 3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- 3.5.2. **Confidential information.** A permittee may request confidential treatment for the submission of reporting required by this permit pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.
- 3.5.3. **Correspondence.** All notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

**If to the DAQ:**  
Director  
WVDEP  
Division of Air Quality  
601 57<sup>th</sup> Street  
Charleston, WV 25304-2345

**If to the US EPA:**  
Associate Director  
Office of Air Enforcement and Compliance Assistance  
(3AP20)  
U.S. Environmental Protection Agency  
Region III  
1650 Arch Street  
Philadelphia, PA 19103-2029

### 3.5.4. Operating Fee

- 3.5.4.1. In accordance with 45CSR22 – Air Quality Management Fee Program, the permittee shall not operate nor cause to operate the permitted facility or other associated facilities on the same or contiguous sites comprising the plant without first obtaining and having in current effect a Certificate to Operate (CTO). Such Certificate to Operate (CTO) shall be renewed annually, shall be maintained on the premises for which the certificate has been issued, and shall be made immediately available for inspection by the Secretary or his/her duly authorized representative.

- 3.5.5. **Emission inventory.** At such time(s) as the Secretary may designate, the permittee herein shall prepare and submit an emission inventory for the previous year, addressing the emissions from the facility and/or process(es) authorized herein, in accordance with the emission inventory submittal requirements of the Division of Air Quality. After the initial submittal, the Secretary may, based upon the type and quantity of the pollutants emitted, establish a frequency other than on an annual basis.

## 4.0. Source-Specific Requirements

### 4.1. Limitations and Standards

- 4.1.1. Emissions of VOC from the facility, shall not exceed 6.00 tpy. Compliance with this emission limit is satisfied through complying with Condition 4.1.3.
- 4.1.2. Emissions of Methylene diphenyl diisocyanate (MDI) and 2,4-Toluene diisocyanate (TDI) from the facility process units, which shall include storage vessels, reactors, filling stations, and fugitives sources, shall not exceed 0.60 tons per year of each of these two hazardous air pollutants. Compliance with this emission limit is satisfied through complying with Condition 4.1.3.
- 4.1.3. The permittee shall comply with the following work practice requirements:
- a. All storage vessels shall be operated with a blanketing system using either dry air or nitrogen. Except for S13 and S14, the discharge side of the blanketing system from the storage vessels shall be vented to a control device.
  - b. All pressure relief devices on all storage vessels and reactors shall be monitored for the purpose of detecting releases or depressurization of the vessel monitored vessel.
  - c. The piping or ducting connecting the emission sources to be vented to control device as noted in Table 1.0 of this permit shall be referred as the closed vent system in this permit.
  - d. For all bulk tanker trailer loadout, the vapor return from the tanker line shall be connected to C4.
  - e. Overhead ventilation drops above or near the following process equipment shall be connected to an control device identified as C4 through a closed vent system:
    - i. Reactors 2 and 3;
    - ii. Storage Vessel S6;
    - iii. Dispersion Machines D1 and D5; and
    - iv. Fill Station 4 (FS4).
  - f. These closed vent systems as required in this condition shall meet the following:
    - i. The system shall be constructed and maintained free of leaks. A leaking component is defined as a measured instrument reading greater than 500 ppm above background or by audio, visual, or olfactory inspection techniques.
    - ii. Detected leaks shall be repaired as soon as practicable with the first attempt at repair within 5 calendar days after detecting the leak. Repair shall be completed no later than 15 calendar days after the leak is detected.  
[45 CSR §13-5.11.]
  - g. Each of the activate carbon drum control devices (C1 through C8) shall be maintained in accordance with the following:

- i. Each carbon drum control device shall be equipped with a visual color indicator that detects breakthrough of organic compounds has occurred for the device.
  - ii. Once breakthrough has occurred for a carbon drum control device has been detected, the saturated carbon in the control device shall be replaced as soon as possible but no later than 2 days after detecting that breakthrough of the particular control device has occurred except for C6. If breakthrough has occurred for C6, the saturated carbon in the control device shall be replaced prior to loading the next tanker trailer.
  - h. The process piping at the facility to include the connected process equipment shall be maintained in such maintain to be free of leaks. If a leak is detected, it shall be repaired in accordance with the timing outline in Condition 4.1.3.e.ii.
  - i. When adding solids to the dispersion machines (D1, D2, D3 and D5), the permittee shall control fugitive particulate matter by routing the vapor return line from the machine for dust collector C9.  
[45 CSR §7-5.1]
- 4.1.4. The facility may change the product recipes if the changes do not exceed the VOC and HAP emissions specified in this permit and the Toxic Air Pollutants rates listed in Table A to 45 CSR 27.  
[45 CSR §13-2.17.c.]
- 4.1.5. The following conditions and requirements are specific to the engine for generator set identified as EG51:
- a. The permittee shall purchase an engine that has been certified to meet the emission standards in 40 CFR §60.4231(e).  
[40 CFR §60.4243(b)]
  - b. The permittee shall operate and maintain the certified engine in accordance with the manufacturer's emission-related written instruction. If the permittee makes an adjustment to the engine's settings according to and consistent with the manufacturer's instruction, the engine is not considered out of compliance with item a of this condition.  
[40 CFR §60.4243(a)(1)]
  - c. There is no time limit on the use of the engine in emergency situations. The engine can operate for combined non-emergency purposes, which include emergency demand response, maintenance and testing, and other non-emergency use for a maximum of 100 hours per year. Within the 100 hours per year, the engine can only operate:
    - i. 50 hours per year for maintenance, testing or readiness checks;
    - ii. 15 hours per year for emergency demand response. Emergency demand response is determined by the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3 or other authorized entity as determined by the Reliability Coordinator; and
    - iii. 50 hours per year for non-emergency use. The non-emergency situations cannot be used for peak shaving or to generate income for the facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

The operating limits imposed in this condition are on a calendar year basis.  
[40 CFR §60.4243(d)]

- d. The engine shall be equipped with a non-resettable hour-meter prior to initial start-up of the engine.  
[40 CFR §60.4237(a)]
  - e. The engine shall only be fired with pipeline quality natural gas. This condition satisfies compliance with the limitation of 45CSR§10-3.1.e.  
[45 CSR §10-10.3., and 45 CSR §10A-3.1.b.]
- 4.1.6. The following conditions and requirements are specific to the engine for generator set identified as EG52:
- a. The generator set shall be used as an emergency stationary generator and be limited to non-emergency operation of no more than 100 hours per year. Non-emergency operation shall be for maintenance checks and readiness tests. Emergency operation is defined when electric power from the local utility is interrupted.  
[40 CFR §60.4211(f)]
  - b. The generator set shall be equipped with an engine or engine configuration that has been certified by the manufacturer to comply with either 40 CFR §60.4205(b)(2), which referred to 40 CFR §§89.111 and 112 or 40 CFR Part 60.  
[40 CFR §§60.4211(a)(3) and (c)(1)]
  - c. The permittee shall maintain the engine for generator set according to the manufacturer's emission-related written instructions.  
[40 CFR §60.4211(a)(1)]
  - d. The permittee shall only change those emission-related settings of the generator set that are permitted by the manufacturer.  
[40 CFR §60.4211(a)(2)]
  - e. The maximum name plate power output of the engine for each generator set shall not be greater than listed in Table 1.0 of this permit.
  - f. The engine will be equipped with a non-resettable hour meter.
  - g. Diesel fuel consumed in EG52 shall have a maximum sulfur content no greater than 15 ppm (ultra-low sulfur diesel) and with either a minimum centane index of 40 or a maximum aromatic content of 35 volume percent. Diesel meeting the specifications of Nonroad diesel under 40 CFR §80.510(b) is equivalent.  
[40 CFR §60.4207(b)]
- 4.1.7. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.  
[45CSR§13-5.11.]

## 4.2. Monitoring Requirements

- 4.2.1. The permittee shall inspect the visual indicators on each activated carbon drum control device, except for C6, in service at least once per week and determine if breakthrough has occurred. Indicator for Control Device C6 shall be inspected and determine if breakthrough has occurred

- within 24 hours of before engaging in tanker truck loading operations. Records of inspections shall be maintained in accordance with Condition 3.4.1.
- 4.2.2. The permittee shall sample and measure the outlet of each activate carbon drum control device in service at least once per calendar quarter determine if breakthrough has occurred using **wither?** IsoSense Sampling unit or other equivalent means that can detected MDI and TDI vapors down to at least 1 parts per billion. Records of the results of measurements shall be maintained in accordance with Condition 3.4.1.
- 4.2.3. For the purposes of demonstrating compliance with the requirements of the closed vent system in Condition 4.1.3.f., the permittee shall conduct the following:
- a. Conduct an initial visual, olfactory, and auditory inspection for defects that could result in air emissions within 180 days after issuance of this permit. Defects include, but are not limited to, visible cracks, holes, or gaps in piping; loose connections; liquid leaks; or broken or missing caps or other closure devices.
  - b. After the initial, subsequent annual visual, olfactory, and auditory inspections shall be conducted for defect that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in piping; loose connections; liquid leaks; or broken or missing caps or other closure devices.
  - c. Detected leaks shall be repaired in accordance timing stated in Condition 4.1.1f.ii.
  - d. Records of such inspections shall be maintained in accordance with 3.4.1.
  - e. The use of the procedures listed as Alternative Methods to Method 21 (i.e. soapy water) to determine a leak or a leak has been repaired is acceptable.
- 4.2.4. The permittee shall monitor the **dehydration unit?** for equipment leaks in accordance with the following requirements:
- a. Conduct an initial visual, olfactory, and auditory inspection for defects that could result in air emissions within 180 days after issuance of this permit. Defects include, but are not limited to, visible cracks, holes, or gaps in piping; loose connections; liquid leaks; or broken or missing caps or other closure devices.
  - b. After the completion of the initial inspection, subsequent inspections shall be conducted in accordance with the following:
    - i. Visual inspection of the pump seals for visual indicators of leaking seals once per month.
    - ii. Conduct a visual, olfactory, and auditory inspection for defects that could result in air emissions within 13 months of the previous inspection of all of the process piping at the facility.
  - c. Detected leaks shall be repaired in accordance timing stated in Condition 4.1.3.f.ii.
  - d. Records of such inspections and any repaired made shall be maintained in accordance with Condition 3.4.1.
- 4.2.5. The permittee shall monitor pressure relief devices on continuous basis. The permittee shall record the date and time the release occurred at, duration of the release, the chemical(s) released, and amounts. Such records shall be maintained in accordance with Condition 3.4.1.

### **4.3. Testing Requirements**

*[Reserved]*

### **4.4. Recordkeeping Requirements**

**4.4.1. Record of Monitoring.** The permittee shall keep records of monitoring information that include the following:

- a. The date, place as defined in this permit, and time of sampling or measurements;
- b. The date(s) analyses were performed;
- c. The company or entity that performed the analyses;
- d. The analytical techniques or methods used;
- e. The results of the analyses; and
- f. The operating conditions existing at the time of sampling or measurement.

**4.4.2. Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

**4.4.3. Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

- a. The equipment involved.
- b. Steps taken to minimize emissions during the event.
- c. The duration of the event.
- d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

- e. The cause of the malfunction.
- f. Steps taken to correct the malfunction.
- g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

**4.4.4.** The permittee shall keep records of the hours of operation for the engines for the generator sets identified as EG51 and EG52. The records must document how many hours are spent for emergency operation, including what classified the operation as emergency, and how many hours were spent for non-emergency operation. Such records shall be maintained in accordance with

Condition 3.4.1. and must be in a manner to demonstrate compliance with the operating limits of Condition 4.1.4.c.

[40 CFR §60.4245(b) for EG51 and 40 CFR §60.4214(b) for EG52]

- 4.4.5. The permittee shall maintain records of MDI and TDI deliveries, production data, and any other information **pertain?** to determine MDI and TDI emission on a calendar year basis using the latest emission calculators published by the American Chemistry Council and/or good engineering calculations.

#### **4.5. Reporting Requirements**

*[Reserved]*

CERTIFICATION OF DATA ACCURACY

I, the undersigned, hereby certify that, based on information and belief formed after reasonable inquiry, all information contained in the attached \_\_\_\_\_, representing the period beginning \_\_\_\_\_ and ending \_\_\_\_\_, and any supporting documents appended hereto, is true, accurate, and complete.

Signature<sup>1</sup> \_\_\_\_\_ Date \_\_\_\_\_  
(please use blue ink) Responsible Official or Authorized Representative

Name & Title \_\_\_\_\_  
(please print or type) Name Title

Telephone No. \_\_\_\_\_ Fax No. \_\_\_\_\_

<sup>1</sup> This form shall be signed by a "Responsible Official." "Responsible Official" means one of the following:

- a. For a corporation: The president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
  - (i) the facilities employ more than 250 persons or have a gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), or
  - (ii) the delegation of authority to such representative is approved in advance by the Director;
- b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
- c. For a municipality, State, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of U.S. EPA); or
- d. The designated representative delegated with such authority and approved in advance by the Director.

**Andrews, Edward S**

---

**From:** Rocky Romine <r.romine@stockmeier.us.com>  
**Sent:** Friday, August 12, 2016 9:27 AM  
**To:** Andrews, Edward S  
**Cc:** Lori Steele; Brian Woods  
**Subject:** Re: WV DAQ NSR Permit Application Complete for Company Name and Location

I think this is good news.

Brian,  
Lets review and respond next Thursday and wrap this up.

Lori,  
If you want, or need to come over then come on over and review it with us. If you review it before then and only have minor comments then you can send the comments with Brian,

Regards,

Rocky

On Fri, Aug 12, 2016 at 8:03 AM, Andrews, Edward S <[Edward.S.Andrews@wv.gov](mailto:Edward.S.Andrews@wv.gov)> wrote:

**RE: Application Status: Complete**  
**Stockmeier Urethanes U.S.A. Inc.**  
**Permit Application R13-2581B**  
**Plant ID No. 033-00150**

*Entire Document*  
**NON-CONFIDENTIAL**

Mr. Romine:

Your application for a Modification permit for a polyurethane manufacturing facility was received by this Division on May 6, 2016 and assigned to the writer for review. It has been determined that the application is complete and, therefore, the statutory review period commenced on August 4, 2016.

This determination of completeness shall not relieve the permit applicant of the requirement to subsequently submit, in a timely manner, any additional or corrected information deemed necessary for a final permit determination.

There is a pre-draft permit attached to this email. Please review this pre-draft and response back to me by August 29, 2016 with any questions or comments.

Should you have any questions, please contact me at [304\) 926-0499 ext. 1214](tel:3049260499) or reply to this email.

Sincerely,

Edward S. Andrews, P.E.

Engineer

West Virginia Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

[304.926.0499 ext. 1214](tel:3049260499)

--

Rocky Romine

Director of Operations & EHS

STOCKMEIER Urethanes USA, Inc.

20 Columbia Boulevard

Clarksburg, WV 26301-9606

T: [304\) 624-7002 ext. 126](tel:3046247002)

F: [304\) 624-7020](tel:3046247020)

C: [304\) 841-8436](tel:3048418436)

[r.romine@stockmeier.us.com](mailto:r.romine@stockmeier.us.com)

**\*\*Send Orders to [sales@stockmeier.us.com](mailto:sales@stockmeier.us.com) or fax to [304-624-7020](tel:3046247020)\*\***

This email and any files transmitted with it are confidential and intended solely for the use of the individual or entity to which it is addressed. If you have received this email in error please notify the sender. Please note that any views or opinions presented in this email are solely those of the author and do not necessarily represent those of Stockmeier Urethanes. Please check this email and any attachments for the presence of viruses. Stockmeier Urethanes accepts no liability for any damage caused by any virus transmitted in this email.

## Andrews, Edward S

---

**From:** Andrews, Edward S  
**Sent:** Thursday, August 04, 2016 2:22 PM  
**To:** 'Rocky Romine'  
**Cc:** Lori Steele; Brian Woods; Dettinger, Karl L  
**Subject:** RE: Follow-up questions from the July 14, 2016 Site Visit

Rocky,

This is really good information for your permit application.

Thanks,  
Ed

ID # 33-157  
Reg R13-2581B  
Company Stockmeier  
Facility Clarksburg Initials SKC

**From:** Rocky Romine [mailto:r.romine@stockmeier.us.com]  
**Sent:** Thursday, August 04, 2016 11:51 AM  
**To:** Andrews, Edward S <Edward.S.Andrews@wv.gov>  
**Cc:** Lori Steele <lstele@msesinc.com>; Brian Woods <brian.woods@msesinc.com>; Dettinger, Karl L <Karl.L.Dettinger@wv.gov>  
**Subject:** Re: Follow-up questions from the July 14, 2016 Site Visit

Ed,

*Entire Document*  
**NON-CONFIDENTIAL**

Please see responses in red below:

1 - What is involve with ISOSense test and could you send me a copy of the results where breakthrough was detected? **The isosense test is colormetric test that uses a pump to draw air through a test strip. A visual inspection of the test strip against a color reference table provides a rough indication of releases in parts per billion. Stockmeier uses this test more for a "pass/fail" test rather than to generate a numeric result for concentrations of Isocyanate on the carbon drum vapor outfall. see pics below.**

2- Is there a written test procedure and if so could you send me a copy of it? **We follow the manufacture's guide for isosense pump and test strip operation. We staple all test strips in a binder and record the dates the tests were performed. We currently do not have a formal procedure for this but could be generated if deemed necessary.**

3- Does your monitoring of the tanks (if applicable to the reactors) notify the operator of a depressurization event (release)? **Our tank monitoring systems do not inherently alarm personnel in the event of material loss. If the tank would be breached without a bursting disk blowing then the "make up" air system would open to equalize the pressure to set-point and not trigger an alarm. If a bursting disk blows then we get an immediate alarm that the disk has blown. If a tank loses enough material a "low level" is triggered to notify personnel that the tank is below operating**

level of material. All tank levels are monitored at the beginning of each day to ensure the level corresponds with the last known inventory level for that tank. Tanks barn containment is visually inspected at the beginning and ending of each day to ensure not liquid is present in the containment.

4- If so, is that recorded? **N/A**

On Thu, Jul 28, 2016 at 3:54 PM, Andrews, Edward S <[Edward.S.Andrews@wv.gov](mailto:Edward.S.Andrews@wv.gov)> wrote:

Rocky,

Thank you for the quick turn around on these requests. I had the process simulator predict the true vapor pressure of the polyols 5 from the data you have provided at 0.023 psia using ASTM D1267.

I have a few follow up questions one about the quarterly Isocyanate sensing test (ISOSense) and monitoring of the tanks.

What is involve with ISOSense test and could you send me a copy of the results where breakthrough was detected? Is there a written test procedure and if so could you send me a copy of it?

Dose you monitoring of the tanks (if applicable to the reactors) notify the operator of a depressurization event (release)? If so, is that recorded?

Should you have any questions about this email, please contact me

Thanks,

Ed

**From:** Rocky Romine [mailto:[r.romine@stockmeier.us.com](mailto:r.romine@stockmeier.us.com)]  
**Sent:** Thursday, July 28, 2016 2:13 PM  
**To:** Andrews, Edward S <[Edward.S.Andrews@wv.gov](mailto:Edward.S.Andrews@wv.gov)>

Cc: Brian Woods <[brian.woods@msesinc.com](mailto:brian.woods@msesinc.com)>; Lori Steele <[lsteele@msesinc.com](mailto:lsteele@msesinc.com)>

Subject: Re: Follow-up questions from the July 14, 2016 Site Visit

Ed,

Please see below for the answers to your questions.

**Tanks:** What operating information is monitored and recorded for each tank (i.e. pressure, temperature, level)? **Operating Temperatures, Pressures, Level.** The tanks also have high level probe and an automatic pressure control system. The PLC (Simplicity System) monitors and provides instantaneous readouts. We do not record this information otherwise.

Is the isocyanate tank under a nitrogen blank? **Tanks S12 and S13 do have a N2 blanket on them. The remainder of the tanks S1 - S11 have a dry air blanket.**

Is the polyol tank under a dry air blanket? **Polyol Tanks S7 - S11 have dry air blankets on them. Polyol Tank S13 has a Nitrogen Blanket. S14 is not installed but will most likely have a Nitrogen blanket when installed.**

Could I get the dimension of the storage tanks (Diameter, Height, and roof radius). **The 12,000 gallon tanks S7 and S1 have the following dimension: 18' tall by 12' diameter. The 8,000 gallon tanks S8-S11 & S2-S5 have the following dimensions: 17' tall by 10' diameter. The roof of the tank barn is roughly 75" from the top of the tanks to the ceiling.**

**Leak detection:**

Does the facility have a routine leak detection/maintenance program for maintaining the process piping and vapor collection system?

If so, could you provide a copy of it. **The program is not formally documented but we do perform the following routine checks on our process piping and vapor collection systems: Simplicity has alarms and interlocks for immediate notification of over pressurization or high liquid level. We do a weekly documented visual inspection of carbon indicators, a monthly storage tank inspection, a quarterly Isocyanate sensing test (ISOSense) at the exhaust side of the carbon drums to determine if breakthrough is present.**

**Carbon Drums:**

How often are the break through indicators are checked? **See above**

**Fill Stations:**

Does the has a hood over the top of the fill station or is vapor collection system connected to the fill machine? A picture or two would be real nice. **Neither applies. We do not have a hood or vapor collection system at the fill stations. Each station has a local exhaust to control employee exposure**

Is the HCTL block on the Air Emissions Diagram a fill station or exactly what is it? **It is a transfer station where packaged materials are transferred from drums or totes to bulk tanker trucks. No emission points exist for this transfer station.**

Are Fill Stations 1, 2, 3 or 5; Or just the two identified in the Air Emissions Diagram? **On two fill station exist. Fill station 4 (FS4) and fill station 6 (FS6)**

**Clean-up Activities:**

Per our phone conversation, acetone is using to clean residue inside of the main building (i.e. mixer) and TMP(?) is used to clear the tanker truck hoses. Could you provide a copy the MSDS of the solve used to clear the hoses. **We use Dowanol TPM. See attached MSDS**

On Fri, Jul 22, 2016 at 3:54 PM, Andrews, Edward S <[Edward.S.Andrews@wv.gov](mailto:Edward.S.Andrews@wv.gov)> wrote:

Rocky,

I have a few questions that I would like to have answered.

**Tanks:** What operating information is monitored and recorded for each tank (i.e. pressure, temperature, level)?

Is the isocyanate tank under a nitrogen blank?

Is the polyol tank under a dry air blanket?

Could I get the dimension of the storage tanks (Diameter, Height, and roof radius).

**Leak detection:**

Does the facility have a routine leak detection/maintenance program for maintaining the process piping and vapor collection system?

If so, could you provide a copy of it.

**Carbon Drums:**

How often are the break through indicators are checked?

**Fill Stations:**

Does the has a hood over the top of the fill station or is vapor collection system connected to the fill machine? A picture or two would be real nice.

Is the HCTL block on the Air Emissions Diagram a fill station or exactly what is it?

Are Fill Stations 1, 2, 3 or 5; Or just the two identified in the Air Emissions Diagram?

**Clean-up Activities:**

Per our phone conversation, acetone is using to clean residue inside of the main building (i.e. mixer) and TMP(?) is used to clear the tanker truck hoses. Could you provide a copy the MSDS of the solve used to clear the hoses.

Please respond to this request by August 8, 2016.

Sincerely,

Edward S. Andrews, P.E.

Engineer

West Virginia Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

[304.926.0499 ext. 1214](tel:304.926.0499)

--

Rocky Romine

Director of Operations & EHS

STOCKMEIER Urethanes USA, Inc.

20 Columbia Boulevard

Clarksburg, WV 26301-9606

T:  [\(304\) 624-7002 ext. 126](tel:(304)624-7002)

F:  [\(304\) 624-7020](tel:(304)624-7020)

C:  [\(304\) 841-8436](tel:(304)841-8436)

[r.romine@stockmeier.us.com](mailto:r.romine@stockmeier.us.com)

**\*\*Send Orders to [sales@stockmeier.us.com](mailto:sales@stockmeier.us.com) or fax to [304-624-7020](tel:304-624-7020)\*\***

This email and any files transmitted with it are confidential and intended solely for the use of the individual or entity to which it is addressed. If you have received this email in error please notify the sender. Please note that any views or opinions presented in this email are solely those of the author and do not necessarily represent those of Stockmeier Urethanes. Please check this email and any attachments for the presence of viruses. Stockmeier Urethanes accepts no liability for any damage caused by any virus transmitted in this email.

--

Rocky Romine

Director of Operations & EHS

STOCKMEIER Urethanes USA, Inc.

20 Columbia Boulevard

Clarksburg, WV 26301-9606

T:  [\(304\) 624-7002 ext. 126](tel:(304)624-7002)

F:  [\(304\) 624-7020](tel:(304)624-7020)

C:  [\(304\) 841-8436](tel:(304)841-8436)

[r.romine@stockmeier.us.com](mailto:r.romine@stockmeier.us.com)

**\*\*Send Orders to [sales@stockmeier.us.com](mailto:sales@stockmeier.us.com) or fax to [304-624-7020](tel:304-624-7020)\*\***

This email and any files transmitted with it are confidential and intended solely for the use of the individual or entity to which it is addressed. If you have received this email in error please notify the sender. Please note that any views or opinions presented in this email are solely those of the author and do not necessarily represent those of Stockmeier Urethanes. Please check this email and any attachments for the presence of viruses. Stockmeier Urethanes accepts no liability for any damage caused by any virus transmitted in this email.

To: A1 Overview

M1 Tank

ID # 33-150  
Reg R13-2581B  
Company Stoebner  
Facility Clarksburg Initials EDW

Tank 51  
12,000 gal  
MDI  
7/7/92

### Tank Calculations

Tank Filling and Storage emissions estimate for working and storage losses

Clear Values

#### WORKING LOSSES

Term	Quantity	Unit
Throughput Volume	963,496	gal/year
$Q_w$	128,810	ft <sup>3</sup> /year
$T_{amb}$ Storage Temperature	80.0	F
$T_{amb}$ Storage Temperature	26.7	C
$VP_{amb}$	1.26E-05	mmHg
$M_w$	250.26	g/mole
Percentage MDI	100	percent
$K_{MDI}$	1.00	
$L_w$	1.36E-03	lb/yr

Clear Values

#### BREATHING LOSSES

Term	Quantity	Unit
Volume of Tank	12,000	gal
$V_T$	12,000	gal
$L_T$	50	percent
$V_V$	6,000	gal
Temperature Fluctuation Range	20.0	F
$T_R$	11.1	C
$T_{amb}$ Ambient Temperature	68.0	F
$T_{amb}$ Ambient Temperature	20.0	C
$K_E$	0.038	
$M_{air}$	0.0789	lb-mole/day
$VP_{amb}$	5.42E-06	mmHg
$M_w$	250.26	g/mole
$K_{MDI}$	0.54	
$L_b$	2.78E-05	lb/yr
<b>Total Emissions</b>	<b>1.38E-03</b>	<b>lb/yr</b>

Entire Document  
NON-CONFIDENTIAL

S1  
pg 2 of 2

Show / Hide Guidance

Show / Hide Calculation Details

Comment
Annual throughput per year. Enter value and select units.
Annual throughput of MDI pumped to the tank in ft <sup>3</sup> per year
Enter temperature and select units: F, K, or C.
Storage temperature in C
MDI vapor pressure based on temperature
Molecular weight of MDI
Percent MDI in the MDI/PMDI mixtures. Enter value.
Adjustment factor based on temperature and percentage MDI
Calculated emissions of diisocyanates from working losses

Comment
Enter value and select units.
Volume of tank in gallons
Percentage of tank that is liquid-filled
Calculated volume of vapor space
Enter value and select units.
Average day-night temperature fluctuation in C
Enter temperature and select units: F, K, or C.
Ambient temperature in C
Vapor expansion factor
Total air displaced
MDI vapor pressure based on temperature
Molecular weight of MDI
Adjustment factor based on temperature and percentage MDI
Calculated emissions of diisocyanates from breathing losses

**Calculated emissions of diisocyanates (combined)**

S2  
pg 1/2

## Tank Calculations

Tank Filling and Storage emissions estimate for working and storage losses

Clear Values

### WORKING LOSSES

Term	Quantity	Unit
Throughput Volume	82,482	gal/year
$Q_w$	11,027	ft <sup>3</sup> /year
$T_{amb}$ Storage Temperature	80.0	F
$T_{amb}$ Storage Temperature	26.7	C
$VP_{amb}$	1.26E-05	mmHg
$M_w$	250.26	g/mole
Percentage MDI	100	percent
$K_{MDI}$	1.00	
$L_w$	1.16E-04	lb/yr

Clear Values

### BREATHING LOSSES

Term	Quantity	Unit
Volume of Tank	8,000	gal
$V_T$	8,000	gal
$L_T$	90	percent
$V_V$	800	gal
Temperature Fluctuation Range	20.0	F
$T_R$	11.1	C
$T_{amb}$ Ambient Temperature	68.0	F
$T_{amb}$ Ambient Temperature	20.0	C
$K_E$	0.038	
$M_{air}$	0.0105	lb-mole/day
$VP_{amb}$	5.42E-06	mmHg
$M_w$	250.26	g/mole
$K_{MDI}$	0.92	
$L_b$	6.31E-06	lb/yr
<b>Total Emissions</b>	<b>1.22E-04</b>	<b>lb/yr</b>

Show / Hide Guidance

Show / Hide Calculation Details

Comment
Annual throughput per year. Enter value and select units.
Annual throughput of MDI pumped to the tank in ft <sup>3</sup> per year
Enter temperature and select units: F, K, or C.
Storage temperature in C
MDI vapor pressure based on temperature
Molecular weight of MDI
Percent MDI in the MDI/PMDI mixtures. Enter value.
Adjustment factor based on temperature and percentage MDI
Calculated emissions of diisocyanates from working losses

Comment
Enter value and select units.
Volume of tank in gallons
Percentage of tank that is liquid-filled
Calculated volume of vapor space
Enter value and select units.
Average day-night temperature fluctuation in C
Enter temperature and select units: F, K, or C.
Ambient temperature in C
Vapor expansion factor
Total air displaced
MDI vapor pressure based on temperature
Molecular weight of MDI
Adjustment factor based on temperature and percentage MDI
Calculated emissions of diisocyanates from breathing losses

**Calculated emissions of diisocyanates (combined)**

S3  
Pg 2

## Tank Calculations

Tank Filling and Storage emissions estimate for working and storage losses

Clear Values

### WORKING LOSSES

Term	Quantity	Unit
Throughput Volume	332,818	gal/year
$Q_w$	44,494	ft <sup>3</sup> /year
$T_{amb}$ Storage Temperature	80.0	F
$T_{amb}$ Storage Temperature	26.7	C
$VP_{amb}$	1.26E-05	mmHg
$M_w$	250.26	g/mole
Percentage MDI	100	percent
$K_{MDI}$	1.00	
$L_w$	4.68E-04	lb/yr

Clear Values

### BREATHING LOSSES

Term	Quantity	Unit
Volume of Tank	8,000	gal
$V_T$	8,000	gal
$L_T$	90	percent
$V_V$	800	gal
Temperature Fluctuation Range	20.0	F
$T_R$	11.1	C
$T_{amb}$ Ambient Temperature	68.0	F
$T_{amb}$ Ambient Temperature	20.0	C
$K_E$	0.038	
$M_{air}$	0.0105	lb-mole/day
$VP_{amb}$	5.42E-06	mmHg
$M_w$	250.26	g/mole
$K_{MDI}$	0.92	
$L_b$	6.31E-06	lb/yr

<b>Total Emissions</b>	<b>4.75E-04</b>	<b>lb/yr</b>
------------------------	-----------------	--------------

53  
Pg 2 of 2

Show / Hide Guidance

Show / Hide Calculation Details

Comment
Annual throughput per year. Enter value and select units.
Annual throughput of MDI pumped to the tank in ft <sup>3</sup> per year
Enter temperature and select units: F, K, or C.
Storage temperature in C
MDI vapor pressure based on temperature
Molecular weight of MDI
Percent MDI in the MDI/PMDI mixtures. Enter value.
Adjustment factor based on temperature and percentage MDI
Calculated emissions of diisocyanates from working losses

Comment
Enter value and select units.
Volume of tank in gallons
Percentage of tank that is liquid-filled
Calculated volume of vapor space
Enter value and select units.
Average day-night temperature fluctuation in C
Enter temperature and select units: F, K, or C.
Ambient temperature in C
Vapor expansion factor
Total air displaced
MDI vapor pressure based on temperature
Molecular weight of MDI
Adjustment factor based on temperature and percentage MDI
Calculated emissions of diisocyanates from breathing losses

**Calculated emissions of diisocyanates (combined)**

54  
pg 1 of 2

## Tank Calculations

Tank Filling and Storage emissions estimate for working and storage losses

Clear Values

### WORKING LOSSES

Term	Quantity	Unit
Throughput Volume	584,825	gal/year
$Q_w$	78,185	ft <sup>3</sup> /year
$T_{amb}$ Storage Temperature	80.0	F
$T_{amb}$ Storage Temperature	26.7	C
$VP_{amb}$	1.26E-05	mmHg
$M_w$	250.26	g/mole
Percentage MDI	100	percent
$K_{MDI}$	1.00	
$L_w$	8.23E-04	lb/yr

Clear Values

### BREATHING LOSSES

Term	Quantity	Unit
Volume of Tank	8,000	gal
$V_T$	8,000	gal
$L_T$	90	percent
$V_V$	800	gal
Temperature Fluctuation Range	20.0	F
$T_R$	11.1	C
$T_{amb}$ Ambient Temperature	68.0	F
$T_{amb}$ Ambient Temperature	20.0	C
$K_E$	0.038	
$M_{air}$	0.0105	lb-mole/day
$VP_{amb}$	5.42E-06	mmHg
$M_w$	250.26	g/mole
$K_{MDI}$	0.92	
$L_b$	6.31E-06	lb/yr
<b>Total Emissions</b>	<b>8.29E-04</b>	<b>lb/yr</b>

Show / Hide Guidance

Show / Hide Calculation Details

54  
pg 2/2

Comment
Annual throughput per year. Enter value and select units.
Annual throughput of MDI pumped to the tank in ft <sup>3</sup> per year
Enter temperature and select units: F, K, or C.
Storage temperature in C
MDI vapor pressure based on temperature
Molecular weight of MDI
Percent MDI in the MDI/PMDI mixtures. Enter value.
Adjustment factor based on temperature and percentage MDI
Calculated emissions of diisocyanates from working losses

Comment
Enter value and select units.
Volume of tank in gallons
Percentage of tank that is liquid-filled
Calculated volume of vapor space
Enter value and select units.
Average day-night temperature fluctuation in C
Enter temperature and select units: F, K, or C.
Ambient temperature in C
Vapor expansion factor
Total air displaced
MDI vapor pressure based on temperature
Molecular weight of MDI
Adjustment factor based on temperature and percentage MDI
Calculated emissions of diisocyanates from breathing losses

**Calculated emissions of diisocyanates (combined)**

55  
pg # of 2

## Tank Calculations

Tank Filling and Storage emissions estimate for working and storage losses

Clear Values

### WORKING LOSSES

Term	Quantity	Unit
Throughput Volume	262,440	gal/year
$Q_w$	35,086	ft <sup>3</sup> /year
$T_{amb}$ Storage Temperature	80.0	F
$T_{amb}$ Storage Temperature	26.7	C
$VP_{amb}$	1.26E-05	mmHg
$M_w$	250.26	g/mole
Percentage MDI	100	percent
$K_{MDI}$	1.00	
$L_w$	3.69E-04	lb/yr

Clear Values

### BREATHING LOSSES

Term	Quantity	Unit
Volume of Tank	8,000	gal
$V_T$	8,000	gal
$L_T$	90	percent
$V_V$	800	gal
Temperature Fluctuation Range	20.0	F
$T_R$	11.1	C
$T_{amb}$ Ambient Temperature	68.0	F
$T_{amb}$ Ambient Temperature	20.0	C
$K_E$	0.038	
$M_{air}$	0.0105	lb-mole/day
$VP_{amb}$	5.42E-06	mmHg
$M_w$	250.26	g/mole
$K_{MDI}$	0.92	
$L_b$	6.31E-06	lb/yr

<b>Total Emissions</b>	<b>3.76E-04</b>	<b>lb/yr</b>
------------------------	-----------------	--------------

Show / Hide Guidance

Show / Hide Calculation Details

<b>Comment</b>
Annual throughput per year. Enter value and select units.
Annual throughput of MDI pumped to the tank in ft <sup>3</sup> per year
Enter temperature and select units: F, K, or C.
Storage temperature in C
MDI vapor pressure based on temperature
Molecular weight of MDI
Percent MDI in the MDI/PMDI mixtures. Enter value.
Adjustment factor based on temperature and percentage MDI
Calculated emissions of diisocyanates from working losses

<b>Comment</b>
Enter value and select units.
Volume of tank in gallons
Percentage of tank that is liquid-filled
Calculated volume of vapor space
Enter value and select units.
Average day-night temperature fluctuation in C
Enter temperature and select units: F, K, or C.
Ambient temperature in C
Vapor expansion factor
Total air displaced
MDI vapor pressure based on temperature
Molecular weight of MDI
Adjustment factor based on temperature and percentage MDI
Calculated emissions of diisocyanates from breathing losses

**Calculated emissions of diisocyanates (combined)**

To: A1 Overview

M4 Tank

Show / Hide Guidance

## Tank Calculations

Tank Filling and Storage emissions estimate for working and storage losses

Closed tanks and tanks with vapor recovery systems will have negligible emissions of diisocyanates.

Emission estimates are applicable for 2,4-TDI (CAS#584-84-9), 2,6,-TDI (CAS# 91-08-7), or a combination of both: TDI (mixed isomers) (CAS# 26471-62-5).

This spreadsheet presents multiple methods of estimating emissions. Be careful not to double-count emissions. These estimates are for uncontrolled emissions. If you have control equipment, you need to separately account for its efficiency in controlling diisocyanate emissions.

Show / Hide Calculation Details

Clear Values

### WORKING LOSSES

Term	Quantity	Unit	Comment
Throughput Volume	262,440	gal/year	Annual throughput per year. Enter value and select units.
T <sub>amb</sub> Storage Temperature	85.0	F	Enter temperature and select units: F, K, or C.
L <sub>w</sub>	5.19E-01	lb/yr	Calculated emissions of diisocyanates from working losses

Clear Values

### BREATHING LOSSES

Term	Quantity	Unit	Comment
Volume of Tank	8,000	gal	Enter value and select units.
L <sub>T</sub>	50	percent	Percentage of tank that is liquid-filled
Temperature Fluctuation Range	85.0	F	Enter value and select units.
T <sub>amb</sub> Ambient Temperature	20.0	F	Enter temperature and select units: F, K, or C.
L <sub>b</sub>	1.24E-02	lb/yr	Calculated emissions of diisocyanates from breathing losses

Total Emissions

	5.31E-01	lb/yr	Calculated emissions of diisocyanates (combined)
--	----------	-------	--

[To: A1 Overview](#)

M2 Fugitive-Monitoring Data

## Fugitive Emissions - From Monitoring Data

Fugitive emissions calculated from monitoring data

How many sets of monitoring data do you have?

Term	Quantity	Unit
$C_{mdi}$	0.150	ppbv
$V_B$	10,944,000	ft <sup>3</sup>
$N_{year}$	22,500	1/year
$T_{amb}$ Ambient Temperature	68.0	F
$L_{fg}$	2.639E+01	lb/yr
$L_{fg}$	2.639E+01	lb/yr

Show/Hide Guidance

Show/Hide Calculation Details

<b>Comment</b>	<b>Data Set #</b>
Average MDI concentration in the air within the building. Enter value and select input units.	1
Enter value. Volume of the workspace building in ft <sup>3</sup> .	1
Number of air exchanges per year. Enter value.	1
Enter temperature and select units: F, K, or C.	1
	1
Calculated emissions of diisocyanates	1
Calculated emissions of diisocyanates	GRAND TOTAL

## Fugitive Emissions - From Equipment Leaks

Fugitive emissions calculated from equipment leaks

How many sets of data do you have?	1	Select
------------------------------------	---	--------

[Clear Values](#)

Term	Quantity	Unit
Input Temperature	68.0	F
% MDI in MDI/PMDI	100.0	percent
Valves in Liquid Service	236	items
Pumps/Agitators	4	items
Connectors (e.g., Quick Connects)	4	items
$t_{pr}$	8,760	hrs/yr
$E_{tot}$	5.96E-01	lb/yr
$E_{tot}$	5.96E-01	lb/yr

Show / Hide Guidance

Show / Hide Calculation Details

<b>Comment</b>	<b>Data Set #</b>
Enter temperature and select units: F, K, or C.	1
Percentage of MDI/PMDI in feedstock	1
Enter items in service	1
Enter items in service	1
Enter items in service	1
Enter total time that the process or equipment is operating (i.e., in contact with MDI/PMDI)	1
	1
Calculated emissions of diisocyanates	1
Calculated emissions of diisocyanates	GRAND TOTAL

Show/Hide Guidance

Show/Hide Calculation Details

### Fugitive Emissions - From Monitoring Data

Monitoring data used for this calculation should represent the average concentration for the space being estimated. Many sets of concentration data will not yield a representative average as the sampling is usually focused where TDI concentrations are expected to be the highest.

Stack air emissions are all releases of the EPCRA Section 313 chemical in the air that occur through stacks, confined vents, ducts, pipes, or other confined air streams. Fugitive air emissions are all other releases to air. A ventilation system can convert fugitive air emissions to stack air emissions.

Emission estimates are applicable for 2,4-TDI (CAS#584-84-9), 2,6-TDI (CAS# 91-08-7), or a combination of both. TDI (mixed isomers) (CAS# 26471-62-5).

This spreadsheet presents multiple methods of estimating emissions. Be careful not to double-count emissions. These estimates are for uncontrolled emissions. If you have control equipment, you need to separately account for its efficiency in controlling diisocyanate emissions.

How many sets of monitoring data do you have?  Select

Clear Values

Term	Quantity	Unit	Comment	Item #
$C_{tdi}$	4.500	ppbv	Average TDI concentration in the air within the building. Enter value and select input units.	1
$V_B$	10,944,000	ft <sup>3</sup>	Enter value. Volume of the workspace building in ft <sup>3</sup> .	1
$N_{year}$	22,500	1/year	Number of air exchanges per year. Enter value.	1
$T_{amb}$ , Ambient Temperature	68.0	F	Enter value and select input units.	1
$L_{fg}$	5.51E+02	lb/yr	Calculated emissions of diisocyanates	1
$L_{fg}$	5.51E+02	lb/yr	Calculated emissions of diisocyanates	1
<b>GRAND TOTAL</b>				<b>GRAND TOTAL</b>

### Summary Report

Below is a summary report of emissions from all processes selected by your entity. This report provides the data elements for your TRI Section 313 Form R reports for TDI. Emission estimates are applicable for 2,4-TDI (CAS#584-84-9), 2,6-TDI (CAS# 91-08-7), or a combination of both. TDI (mixed isomers) (CAS# 26471-62-5).

If you have multiple sources of the same emission process and quantity (e.g., multiple TDI-containing tanks of the same size), you may enter a whole number value in the "Count" column below.

Report Number: **R13-2581B**      User Name: **E Andrews**      Date: **8/5/2016**  
 Company: **Stockmeier Urethanes**      City: **Clarksburg**      State: **WV**

Process No.	Process Step Type	TDI Emissions (per Unit)	Count	TDI Emissions (total)	Status	Basis of Estimate Code
M1	Fugitive - Monitoring Data	5.51E+02 lb/yr	1	5.51E+02 lb/yr	DATA ENTERED	O - Other approaches
M2	Fugitive - Equipment Leaks	1.29E+02 lb/yr	1	1.29E+02 lb/yr	DATA ENTERED	O - Other approaches
M3	Spill	0.00E+00 lb/yr	1	0.00E+00 lb/yr	DATA NOT ENTERED	O - Other approaches
M4	Tank	5.31E-01 lb/yr	1	5.31E-01 lb/yr	DATA ENTERED	O - Other approaches
M5	Enclosed Process	0.00E+00 lb/yr	1	0.00E+00 lb/yr	DATA NOT ENTERED	O - Other approaches
M6	Open Process	0.00E+00 lb/yr	1	0.00E+00 lb/yr	DATA NOT ENTERED	O - Other approaches
M7	Emission Factors	0.00E+00 lb/yr	1	0.00E+00 lb/yr	DATA NOT ENTERED	E1 - Public emission factors

Total Fugitive Air Releases (Sec. 5.1)

Total Stack Air Releases (Sec. 5.2)

GRAND TOTAL

6.80E+02 lb/yr
5.31E-01 lb/yr
6.80E+02 lb/yr

O - Other approaches
O - Other approaches
O - Other approaches

**Andrews, Edward S**

---

**From:** Rocky Romine <r.romine@stockmeier.us.com>  
**Sent:** Thursday, August 04, 2016 11:51 AM  
**To:** Andrews, Edward S  
**Cc:** Lori Steele; Brian Woods; Dettinger, Karl L  
**Subject:** Re: Follow-up questions from the July 14, 2016 Site Visit  
**Attachments:** IsoSenseBrochurePricing.pdf; Isosense 1.jpg; Isosense 2.jpg

Ed,

ID # 33-150  
Reg R13-25X1B  
Company Stockmeier  
Facility Chickering Initials ER

Please see responses in red below:

1 - What is involve with ISOSense test and could you send me a copy of the results where breakthrough was detected? **The isosense test is colormetric test that uses a pump to draw air through a test strip. A visual inspection of the test strip against a color reference table provides a rough indication of releases in parts per billion. Stockmeier uses this test more for a "pass/fail" test rather than to generate a numeric result for concentrations of Isocyanate on the carbon drum vapor outfall. see pics below.**

2- Is there a written test procedure and if so could you send me a copy of it? **We follow the manufacture's guide for isosense pump and test strip operation. We staple all test strips in a binder and record the dates the tests were performed. We currently do not have a formal procedure for this but could be generated if deemed necessary.**

3- Does your monitoring of the tanks (if applicable to the reactors) notify the operator of a depressurization event (release)? **Our tank monitoring systems do not inherently alarm personnel in the event of material loss. If the tank would be breached without a bursting disk blowing then the "make up" air system would open to equalize the pressure to set-point and not trigger an alarm. If a bursting disk blows then we get an immediate alarm that the disk has blown. If a tank loses enough material a "low level" is triggered to notify personnel that the tank is below operating level of material. All tank levels are monitored at the beginning of each day to ensure the level corresponds with the last known inventory level for that tank. Tanks barn containment is visually inspected at the beginning and ending of each day to ensure not liquid is present in the containment.**

4- If so, is that recorded? **N/A**

On Thu, Jul 28, 2016 at 3:54 PM, Andrews, Edward S <[Edward.S.Andrews@wv.gov](mailto:Edward.S.Andrews@wv.gov)> wrote:

Rocky,

*Entire Document*  
**NON-CONFIDENTIAL**

Thank you for the quick turn around on these requests. I had the process simulator predict the true vapor pressure of the polyols 5 from the data you have provided at 0.023 psia using ASTM D1267.

I have a few follow up questions one about the quarterly Isocyanate sensing test (ISOSense) and monitoring of the tanks.

What is involve with ISOSense test and could you send me a copy of the results where breakthrough was detected? Is there a written test procedure and if so could you send me a copy of it?

Dose you monitoring of the tanks (if applicable to the reactors) notify the operator of a depressurization event (release)? If so, is that recorded?

Should you have any questions about this email, please contact me

Thanks,

Ed

**From:** Rocky Romine [mailto:[r.romine@stockmeier.us.com](mailto:r.romine@stockmeier.us.com)]  
**Sent:** Thursday, July 28, 2016 2:13 PM  
**To:** Andrews, Edward S <[Edward.S.Andrews@wv.gov](mailto:Edward.S.Andrews@wv.gov)>  
**Cc:** Brian Woods <[brian.woods@msesinc.com](mailto:brian.woods@msesinc.com)>; Lori Steele <[lsteele@msesinc.com](mailto:lsteele@msesinc.com)>  
**Subject:** Re: Follow-up questions from the July 14, 2016 Site Visit

Ed,

Please see below for the answers to your questions.

**Tanks:** What operating information is monitored and recorded for each tank (i.e. pressure, temperature, level)? **Operating Temperatures, Pressures, Level. The tanks also have high level probe and an automatic pressure control system. The PLC (Simplicity System) monitors and provides instantaneous readouts. We do not record this information otherwise.**

Is the isocyanate tank under a nitrogen blank? **Tanks S12 and S13 do have a N2 blanket on them. The remainder of the tanks S1 - S11 have a dry air blanket.**

Is the polyol tank under a dry air blanket? **Polyol Tanks S7 - S11 have dry air blankets on them. Polyol Tank S13 has a Nitrogen Blanket. S14 is not installed but will most likely have a Nitrogen blanket when installed.**

Could I get the dimension of the storage tanks (Diameter, Height, and roof radius). **The 12,000 gallon tanks S7 and S1 have the following dimension: 18' tall by 12' diameter. The 8,000 gallon tanks S8-S11 & S2-S5 have the following dimensions: 17' tall by 10' diameter. The roof of the tank barn is roughly 75" from the top of the tanks to the ceiling.**

#### **Leak detection:**

Does the facility have a routine leak detection/maintenance program for maintaining the process piping and vapor collection system?

If so, could you provide a copy of it. **The program is not formally documented but we do perform the following routine checks on our process piping and vapor collection systems: Simplicity has alarms and interlocks for immediate notification of over pressurization or high liquid level. We do a weekly documented visual inspection of carbon indicators, a monthly storage tank inspection, a quarterly Isocyanate sensing test (ISOSense) at the exhaust side of the carbon drums to determine if breakthrough is present.**

#### **Carbon Drums:**

How often are the break through indicators are checked? **See above**

#### **Fill Stations:**

Does the has a hood over the top of the fill station or is vapor collection system connected to the fill machine? A picture or two would be real nice. **Neither applies. We do not have a hood or vapor collection system at the fill stations. Each station has a local exhaust to control employee exposure**

Is the HCTL block on the Air Emissions Diagram a fill station or exactly what is it? **It is a transfer station where packaged materials are transferred from drums or totes to bulk tanker trucks. No emission points exist for this transfer station.**

Are Fill Stations 1, 2, 3 or 5; Or just the two identified in the Air Emissions Diagram? **On two fill station exist. Fill station 4 (FS4) and fill station 6 (FS6)**

#### **Clean-up Activities:**

Per our phone conversation, acetone is using to clean residue inside of the main building (i.e. mixer) and TMP(?) is used to clear the tanker truck hoses. Could you provide a copy the MSDS of the solve used to clear the hoses. **We use Dowanol TPM. See attached MSDS**

On Fri, Jul 22, 2016 at 3:54 PM, Andrews, Edward S <[Edward.S.Andrews@wv.gov](mailto:Edward.S.Andrews@wv.gov)> wrote:

Rocky,

I have a few questions that I would like to have answered.

**Tanks:** What operating information is monitored and recorded for each tank (i.e. pressure, temperature, level)?

Is the isocyanate tank under a nitrogen blank?

Is the polyol tank under a dry air blanket?

Could I get the dimension of the storage tanks (Diameter, Height, and roof radius).

**Leak detection:**

Does the facility have a routine leak detection/maintenance program for maintaining the process piping and vapor collection system?

If so, could you provide a copy of it.

**Carbon Drums:**

How often are the break through indicators are checked?

**Fill Stations:**

Does the has a hood over the top of the fill station or is vapor collection system connected to the fill machine? A picture or two would be real nice.

Is the HCTL block on the Air Emissions Diagram a fill station or exactly what is it?

Are Fill Stations 1, 2, 3 or 5; Or just the two identified in the Air Emissions Diagram?

**Clean-up Activities:**

Per our phone conversation, acetone is using to clean residue inside of the main building (i.e. mixer) and TMP(?) is used to clear the tanker truck hoses. Could you provide a copy the MSDS of the solve used to clear the hoses.

Please respond to this request by August 8, 2016.

Sincerely,

Edward S. Andrews, P.E.

Engineer

West Virginia Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

[304.926.0499 ext. 1214](tel:304.926.0499)

--

Rocky Romine

Director of Operations & EHS

STOCKMEIER Urethanes USA, Inc.

20 Columbia Boulevard

Clarksburg, WV 26301-9606

T: [304\) 624-7002 ext. 126](tel:304.624.7002)

F: [304\) 624-7020](tel:304.624.7020)

C: [304\) 841-8436](tel:304.841.8436)

[r.romine@stockmeier.us.com](mailto:r.romine@stockmeier.us.com)

**\*\*Send Orders to [sales@stockmeier.us.com](mailto:sales@stockmeier.us.com) or fax to [304-624-7020](tel:304-624-7020)\*\***

This email and any files transmitted with it are confidential and intended solely for the use of the individual or entity to which it is addressed. If you have received this email in error please notify the sender. Please note that any views or opinions presented in this email are solely those of the author and do not necessarily represent those of Stockmeier Urethanes. Please check this email and any attachments for the presence of viruses. Stockmeier Urethanes accepts no liability for any damage caused by any virus transmitted in this email.

--

Rocky Romine

Director of Operations & EHS

STOCKMEIER Urethanes USA, Inc.  
20 Columbia Boulevard  
Clarksburg, WV 26301-9606  
T: [304-624-7002 ext. 126](tel:304-624-7002)  
F: [304-624-7020](tel:304-624-7020)  
C: [304-841-8436](tel:304-841-8436)  
[r.romine@stockmeier.us.com](mailto:r.romine@stockmeier.us.com)

**\*\*Send Orders to [sales@stockmeier.us.com](mailto:sales@stockmeier.us.com) or fax to [304-624-7020](tel:304-624-7020)\*\***

This email and any files transmitted with it are confidential and intended solely for the use of the individual or entity to which it is addressed. If you have received this email in error please notify the sender. Please note that any views or opinions presented in this email are solely those of the author and do not necessarily represent those of Stockmeier Urethanes. Please check this email and any attachments for the presence of viruses. Stockmeier Urethanes accepts no liability for any damage caused by any virus transmitted in this email.



**DOD Technologies, Inc.**  
Innovative Life Safety Systems & Services



## IsoSense Sampling Unit

The IsoSense is a portable and economical sampling device ideal for measuring vapor and aerosol levels of isocyanate compounds (MDI and TDI down to 1 PPB). Specially designed for personal exposure evaluations, area surveys and emergency response.

Simple samples are taken by first placing a pretreated test strip in a specially designed test strip holder. Next, start the state of the art pump which is preset for analysis time and flow. Once the sampling is complete, remove the test strip and compare the color change with the calibrated comparator color wheel to determine the exposure concentration.

### Detectable

### Gases

### Isocyanate Compounds

-MDI

-TDI



The IsoSense sampling unit has a digital display which displays battery life, flow rate and sample time. This smart sampling unit will constantly checking for restricted air flow, blocked airflow or over flow while automatically adjusting and maintaining the preset value.

The IsoSense Sampling Kit includes an IsoSense pump unit, sample head, concentration calculator, flow test kit, 20 test strips, battery charger, manual and carrying case.

Visit our web site at [www.dodtec.com](http://www.dodtec.com) or call 815-788-5200

**Innovative Life Safety Systems & Services**



# DOD Technologies, Inc.

Innovative Life Safety Systems & Services

## Specifications

### *Test Cards / Test Strips*

<b>Shelf-life</b>	Typically six months.
<b>Detection Principle:</b>	Colorimetric
<b>Analysis Method:</b>	Visual, with Dose Estimator
<b>Lower Detection Limit:</b>	1 PPB
<b>Accuracy:</b>	+/- 25%
<b>Temperature Range:</b>	10° to 40° C
<b>Humidity:</b>	20% to 85% Relative Humidity

### *IsoSense Sampling Unit*

<b>Test Card Holder:</b>	Blue anodized metal with 5 ft. Tygon tubing and stainless steel clip. FEP Teflon sampling inlet.
<b>Operating Time:</b>	Approximately eight hours per full charge.
<b>Battery:</b>	Rechargeable NIMH Battery
<b>Sampling Pump:</b>	Quick start preset analysis time (5M) Pre-set automatically adjusted flow Sample time remaining and battery life indicator Flow interrupted fault



### *IsoSense Sampling Kit includes:*

- **Sampling unit (Pump) with belt clip**
- **Battery Charger**
- **Sampling Holder with five feet of sampling tubing**
- **Flow test kit**
- **20 test strips (Isocyanates)**
- **Concentration Calculator**
- **Manual**
- **Carrying Case**

NOTE: \*Because of the ease of use, the reliability, and the direct reading capabilities of the IsoSense Sampling Unit for MDI, it is often asked if this instrument can be used to measure the airborne levels of polymeric MDI (PMDI). We recommend that the MDI IsoSense Sampling Unit should only be used as a rough indication of the PMDI airborne concentration. The monitor should not be used when it is necessary to accurately quantitate the airborne concentration of PMDI materials. PMDI's are mixtures that vary in composition between manufacturers and product grades. In order to have an accurate concentration calibration of a monitor for a PMDI, the monitor would have to be calibrated on the specific material and grade that is used in the intended workplace.

**We stress that this recommendation is not based on the ability of the monitors to detect PMDI materials but is based on the ability of the monitors to correlate a specific amount of stain to an airborne concentration of the PMDI material.**

Visit our web site at [www.dodtec.com](http://www.dodtec.com) or call 815-788-5200



**Innovative Life Safety Systems & Services**



## IsoSense Price list

<u>Part Number</u>	<u>Description</u>	<u>Price</u>
1-001-000	IsoSense MDI (Isocyanate) kit	\$ 1,450
	Includes: Carrying Case MDI Anodized Card Holder Pump unit (includes charger) Calibration Flow meter Isocyanate Test Strips (20) MDI Estimator (color strip)	
1-001-100	IsoSense TDI (Isocyanate) kit	\$ 1,450
	Includes: Carrying Case TDI Anodized Card Holder Pump unit (includes charger) Calibration Flow meter Isocyanate Test Strips (20) TDI Estimator (color strip)	
<b>Individual Components</b>		
1-001-001	IsoSense pump unit (Includes charger)	\$ 950
1-000-700	Calibration Flow meter 2.5 LPM	\$ 205
1-000-558	Isocyanate test strips ( 20 in package)	\$ 40
2780-0350	MDI Anodized Card holder (with tubing)	\$ 230
1-200-241	MDI Estimator (color strip)	\$ 55
2780-0300	TDI Anodized Card holder (with tubing)	\$ 230
1-200-231	TDI Estimator (color strip)	\$ 55

Note: Pricing & specifications can change without notice. Date 04.23.09

Visit our web site at [www.dodtec.com](http://www.dodtec.com) or call 815-788-5200

**Andrews, Edward S**

---

**From:** Rocky Romine <r.romine@stockmeier.us.com>  
**Sent:** Thursday, July 28, 2016 2:13 PM  
**To:** Andrews, Edward S  
**Cc:** Brian Woods; Lori Steele  
**Subject:** Re: Follow-up questions from the July 14, 2016 Site Visit  
**Attachments:** TPM - Dow - 2015-04-21.pdf

Ed,

ID # 33-150  
Reg R13-2581B  
Company Stockmeier  
Facility Clarksburg Initials ER

Please see below for the answers to your questions.

**Tanks:** What operating information is monitored and recorded for each tank (i.e. pressure, temperature, level)? **Operating Temperatures, Pressures, Level.** The tanks also have high level probe and an automatic pressure control system. The PLC (Simplicity System) monitors and provides instantaneous readouts. We do not record this information otherwise.

Is the isocyanate tank under a nitrogen blanket? **Tanks S12 and S13 do have a N2 blanket on them. The remainder of the tanks S1 - S11 have a dry air blanket.**

Is the polyol tank under a dry air blanket? **Polyol Tanks S7 - S11 have dry air blankets on them. Polyol Tank S13 has a Nitrogen Blanket. S14 is not installed but will most likely have a Nitrogen blanket when installed.**

Could I get the dimension of the storage tanks (Diameter, Height, and roof radius). **The 12,000 gallon tanks S7 and S1 have the following dimension: 18' tall by 12' diameter. The 8,000 gallon tanks S8-S11 & S2-S5 have the following dimensions: 17' tall by 10' diameter. The roof of the tank barn is roughly 75" from the top of the tanks to the ceiling.**

**Leak detection:**

Does the facility have a routine leak detection/maintenance program for maintaining the process piping and vapor collection system?

If so, could you provide a copy of it. **The program is not formally documented but we do perform the following routine checks on our process piping and vapor collection systems: Simplicity has alarms and interlocks for immediate notification of over pressurization or high liquid level. We do a weekly documented visual inspection of carbon indicators, a monthly storage tank inspection, a quarterly Isocyanate sensing test (ISOsense) at the exhaust side of the carbon drums to determine if breakthrough is present.**

**Carbon Drums:**

How often are the break through indicators are checked? **See above**

*Entire Document*  
**NON-CONFIDENTIAL**  
*Entire Document*  
**NON-CONFIDENTIAL**

**Fill Stations:**

Does the has a hood over the top of the fill station or is vapor collection system connected to the fill machine? A picture or two would be real nice. **Neither applies. We do not have a hood or vapor collection system at the fill stations. Each station has a local exhaust to control employee exposure**

Is the HCTL block on the Air Emissions Diagram a fill station or exactly what is it? **It is a transfer station where packaged materials are transferred from drums or totes to bulk tanker trucks. No emission points exist for this transfer station.**

Are Fill Stations 1, 2, 3 or 5; Or just the two identified in the Air Emissions Diagram? **On two fill station exist. Fill station 4 (FS4) and fill station 6 (FS6)**

**Clean-up Activities:**

Per our phone conversation, acetone is using to clean residue inside of the main building (i.e. mixer) and TMP(?) is used to clear the tanker truck hoses. Could you provide a copy the MSDS of the solve used to clear the hoses. **We use Dowanol TPM. See attached MSDS**

On Fri, Jul 22, 2016 at 3:54 PM, Andrews, Edward S <[Edward.S.Andrews@wv.gov](mailto:Edward.S.Andrews@wv.gov)> wrote:

Rocky,

I have a few questions that I would like to have answered.

**Tanks:** What operating information is monitored and recorded for each tank (i.e. pressure, temperature, level)?

Is the isocyanate tank under a nitrogen blank?

Is the polyol tank under a dry air blanket?

Could I get the dimension of the storage tanks (Diameter, Height, and roof radius).

**Leak detection:**

Does the facility have a routine leak detection/maintenance program for maintaining the process piping and vapor collection system?

If so, could you provide a copy of it.

**Carbon Drums:**

How often are the break through indicators are checked?

**Fill Stations:**

Does the has a hood over the top of the fill station or is vapor collection system connected to the fill machine? A picture or two would be real nice.

Is the HCTL block on the Air Emissions Diagram a fill station or exactly what is it?

Are Fill Stations 1, 2, 3 or 5; Or just the two identified in the Air Emissions Diagram?

**Clean-up Activities:**

Per our phone conversation, acetone is using to clean residue inside of the main building (i.e. mixer) and TMP(?) is used to clear the tanker truck hoses. Could you provide a copy the MSDS of the solve used to clear the hoses.

Please respond to this request by August 8, 2016.

Sincerely,

Edward S. Andrews, P.E.

Engineer

West Virginia Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

[304.926.0499](tel:304.926.0499) ext. 1214

--

Rocky Romine

Director of Operations & EHS

STOCKMEIER Urethanes USA, Inc.

20 Columbia Boulevard

Clarksburg, WV 26301-9606

T:  [\(304\) 624-7002 ext. 126](tel:(304)624-7002)

F:  [\(304\) 624-7020](tel:(304)624-7020)

C:  [\(304\) 841-8436](tel:(304)841-8436)

[r.romine@stockmeier.us.com](mailto:r.romine@stockmeier.us.com)

**\*\*Send Orders to [sales@stockmeier.us.com](mailto:sales@stockmeier.us.com) or fax to [304-624-7020](tel:304-624-7020)\*\***

This email and any files transmitted with it are confidential and intended solely for the use of the individual or entity to which it is addressed. If you have received this email in error please notify the sender. Please note that any views or opinions presented in this email are solely those of the author and do not necessarily represent those of Stockmeier Urethanes. Please check this email and any attachments for the presence of viruses. Stockmeier Urethanes accepts no liability for any damage caused by any virus transmitted in this email.



# SAFETY DATA SHEET

THE DOW CHEMICAL COMPANY

Product name: DOWANOL™ TPM GLYCOL ETHER

Issue Date: 04/21/2015

Print Date: 04/22/2015

THE DOW CHEMICAL COMPANY encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

---

## 1. IDENTIFICATION

---

Product name: DOWANOL™ TPM GLYCOL ETHER

**Recommended use of the chemical and restrictions on use**

**Identified uses:** A glycol ether. We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

**COMPANY IDENTIFICATION**

THE DOW CHEMICAL COMPANY  
2030 WILLARD H DOW CENTER  
MIDLAND MI 48674-0000  
UNITED STATES

**Customer Information Number:**

800-258-2436

SDSQuestion@dow.com

**EMERGENCY TELEPHONE NUMBER**

**24-Hour Emergency Contact:** 800-424-9300

**Local Emergency Contact:** 800-424-9300

---

## 2. HAZARDS IDENTIFICATION

---

**Hazard classification**

This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

**Other hazards**

no data available

---

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

---

**Synonyms:** [2-(2-methoxymethylethoxy)methylethoxy]propanol

This product is a substance.

**Component**

**CASRN**

**Concentration**

---

---

Tripropyleneglycol methyl ether	25498-49-1	> 97.5 %
Dipropylene glycol	25265-71-8	<= 1.99 %

---

---

#### 4. FIRST AID MEASURES

---

**Description of first aid measures**

**General advice:** If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:** Move person to fresh air; if effects occur, consult a physician.

**Skin contact:** Wash off with plenty of water.

**Eye contact:** Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

**Ingestion:** If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

**Most important symptoms and effects, both acute and delayed:** Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

**Indication of any immediate medical attention and special treatment needed**

**Notes to physician:** Maintain adequate ventilation and oxygenation of the patient. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

---

#### 5. FIREFIGHTING MEASURES

---

**Suitable extinguishing media:** Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

**Unsuitable extinguishing media:** Do not use direct water stream. May spread fire.

**Special hazards arising from the substance or mixture**

**Hazardous combustion products:** During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

**Unusual Fire and Explosion Hazards:** Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

**Advice for firefighters**

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has

passed. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

**Special protective equipment for firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

---

## **6. ACCIDENTAL RELEASE MEASURES**

---

**Personal precautions, protective equipment and emergency procedures:** Keep unnecessary and unprotected personnel from entering the area. Keep upwind of spill. Ventilate area of leak or spill. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

**Environmental precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

**Methods and materials for containment and cleaning up:** Small spills: Absorb with materials such as: Sand. Vermiculite. Collect in suitable and properly labeled containers. Large spills: Contain spilled material if possible. Pump into suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

---

## **7. HANDLING AND STORAGE**

---

**Precautions for safe handling:** Keep container closed. Use with adequate ventilation. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

**Conditions for safe storage:** Store in the following material(s): Carbon steel. Stainless steel. Phenolic lined steel drums. Do not store in: Aluminum. Copper. Galvanized iron. Galvanized steel. Viton. Neoprene. Nitrile. Natural rubber.

**Storage stability**

**Steel drums. 24 Month**

**Shelf life: Use within, Bulk 6 Month**

---

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

---

**Control parameters**

Exposure limits are listed below, if they exist.

None established

**Exposure controls**

**Engineering controls:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure

limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

#### Individual protection measures

**Eye/face protection:** Use safety glasses (with side shields).

#### Skin protection

**Hand protection:** Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier materials include: Butyl rubber. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl").

**NOTICE:** The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

**Other protection:** When prolonged or frequently repeated contact could occur, use protective clothing chemically resistant to this material. Selection of specific items such as faceshield, boots, apron, or full-body suit will depend on the task.

**Respiratory protection:** Under intended handling conditions, no respiratory protection should be needed.

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

---

### Appearance

Physical state	Liquid.
Color	Colorless
Odor	Ether
Odor Threshold	No test data available
pH	No test data available
Melting point/range	Not applicable to liquids
Freezing point	-77.8 °C (-108.0 °F) <i>Literature</i>
Boiling point (760 mmHg)	242.8 °C (469.0 °F) at 760 mmHg <i>OECD Test Guideline 103</i>
Flash point	<b>closed cup</b> 124 °C (255 °F) <i>Pensky-Martens Closed Cup ASTM D 93</i>
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	Not applicable to liquids
Lower explosion limit	0.8 % vol <i>Literature</i>
Upper explosion limit	8.5 % vol <i>Literature</i>
Vapor Pressure	1.7 Pa at 293.15 K (68.00 °F) <i>Literature</i>
Relative Vapor Density (air = 1)	7.15 <i>Literature</i>
Relative Density (water = 1)	0.9650 at 20 °C (68 °F) <i>Literature</i>
Water solubility	100 % at 20 °C (68 °F) <i>Literature</i> Miscible with water
Partition coefficient: n-octanol/water	log Pow: 0.31 <i>Estimated.</i>
Auto-ignition temperature	277 °C (531 °F) at 1,013 hPa <i>EC Method A15</i>

<b>Decomposition temperature</b>	No test data available
<b>Dynamic Viscosity</b>	5.5 cP at 25 °C (77 °F) <i>Literature</i>
<b>Kinematic Viscosity</b>	6.71 mm <sup>2</sup> /s at 20 °C (68 °F) <i>DIN 51562</i>
<b>Explosive properties</b>	Not explosive
<b>Oxidizing properties</b>	No
<b>Liquid Density</b>	0.9650 g/cm <sup>3</sup> at 20 °C (68 °F) <i>Literature</i>
<b>Molecular weight</b>	206.3 g/mol <i>Literature</i>
<b>Surface tension</b>	68.8 mN/m at 20 °C (68 °F) <i>Literature</i>

NOTE: The physical data presented above are typical values and should not be construed as a specification.

---

## 10. STABILITY AND REACTIVITY

---

**Reactivity:** no data available

**Chemical stability:** Stable under recommended storage conditions. See Storage, Section 7.

**Possibility of hazardous reactions:** Polymerization will not occur.

**Conditions to avoid:** Do not distill to dryness. Product can oxidize at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

**Incompatible materials:** Avoid contact with: Strong acids. Strong bases. Strong oxidizers.

**Hazardous decomposition products:** Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes. Ketones. Organic acids.

---

## 11. TOXICOLOGICAL INFORMATION

---

*Toxicological information on this product or its components appear in this section when such data is available.*

### Acute toxicity

#### Acute oral toxicity

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

LD50, Rat, male and female, 3,500 mg/kg

#### Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts. Prolonged skin contact with very large amounts may cause dizziness or drowsiness.

LD50, Rabbit, > 15,440 mg/kg

**Acute inhalation toxicity**

No adverse effects are anticipated from single exposure to vapor. Based on the available data, narcotic effects were not observed. Based on the available data, respiratory irritation was not observed.

LC0, Rat, 8 Hour, vapour, > 30 ppm No deaths occurred at this concentration.

**Skin corrosion/irritation**

Prolonged exposure not likely to cause significant skin irritation.

**Serious eye damage/eye irritation**

May cause slight temporary eye irritation.  
Corneal injury is unlikely.

**Sensitization**

Did not demonstrate the potential for contact allergy in mice.

For respiratory sensitization:

No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Specific Target Organ Systemic Toxicity (Repeated Exposure)**

Signs and symptoms of excessive exposure may include:  
Anesthetic or narcotic effects.

**Carcinogenicity**

Similar material(s) did not cause cancer in laboratory animals.

**Teratogenicity**

Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

**Reproductive toxicity**

For similar material(s): In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

**Mutagenicity**

In vitro genetic toxicity studies were negative.

**Aspiration Hazard**

Based on physical properties, not likely to be an aspiration hazard.

---

---

## **12. ECOLOGICAL INFORMATION**

---

*Ecotoxicological information on this product or its components appear in this section when such data is available.*

**Toxicity**

**Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LC50, Pimephales promelas (fathead minnow), static test, 96 Hour, 11,619 mg/l, OECD Test Guideline 203 or Equivalent

**Acute toxicity to aquatic invertebrates**

LC50, Daphnia magna (Water flea), static test, 48 Hour, > 10,000 mg/l, OECD Test Guideline 202 or Equivalent

**Persistence and degradability**

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation rate may increase in soil and/or water with acclimation.

10-day Window: Pass

**Biodegradation:** 60 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301F or Equivalent

**Theoretical Oxygen Demand:** 2.09 mg/mg

**Chemical Oxygen Demand:** 2.02 mg/mg Dichromate

**Biological oxygen demand (BOD)**

Incubation Time	BOD
5 d	0 %
10 d	0.9 %
20 d	51 %

**Bioaccumulative potential**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** 0.31 at 20 °C Estimated.

**Mobility in soil**

Potential for mobility in soil is very high (Koc between 0 and 50).

**Partition coefficient(Koc):** 0.4 Estimated.

---

## 13. DISPOSAL CONSIDERATIONS

---

**Disposal methods:** DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device.

---

**14. TRANSPORT INFORMATION**

---

**DOT**

Not regulated for transport

**Classification for SEA transport (IMO-IMDG):****Transport in bulk  
according to Annex I or II  
of MARPOL 73/78 and the  
IBC or IGC Code**Not regulated for transport  
Consult IMO regulations before transporting ocean bulk**Classification for AIR transport (IATA/CAO):**

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

---

**15. REGULATORY INFORMATION**

---

**OSHA Hazard Communication Standard**

This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312**

This product is not a hazardous chemical under 29CFR 1910.1200, and therefore is not covered by Title III of SARA.

**Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Pennsylvania Worker and Community Right-To-Know Act:**

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

**California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)**

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

**United States TSCA Inventory (TSCA)**

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

---

---

**16. OTHER INFORMATION**

---

**Product Literature**

Additional information on this product may be obtained by calling your sales or customer service contact. Ask for a product brochure.

**Revision**

Identification Number: 101201567 / A001 / Issue Date: 04/21/2015 / Version: 4.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

**Information Source and References**

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

THE DOW CHEMICAL COMPANY urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

**Andrews, Edward S**

---

**From:** Rocky Romine <r.romine@stockmeier.us.com>  
**Sent:** Wednesday, July 20, 2016 8:50 AM  
**To:** Andrews, Edward S; Adam Rexroad  
**Subject:** Fwd: HC Reactor Safety Valves  
**Attachments:** 145523.pdf; DisCalc Calculation Printout.pdf

Ed,

Can you facilitate performing the same calcs shown below, but change my request from a Bursting Disk to a Safety Valves??? The Fike Reps that did the calcs are shown if support is needed.

I only want this performed for Reactors 11, 12 and 8 for now. I do not want any spares of any type. Just the base equipment and base models as we don't need or want any latest/greatest stuff; to keep costs in check.

If we are successful then we will move forward with the other reactors.

Timing is critical as I need R11 SV installed by end of month if possible and certainly no later than mid August..

Thanks,

Rocky

----- Forwarded message -----

**From:** Dan Kolligian <dkolligian@andrewsic.com>  
**Date:** Tue, Sep 29, 2015 at 8:09 AM  
**Subject:** RE: HC Reactor Safety Valves  
**To:** Rocky Romine <r.romine@stockmeier.us.com>  
**Cc:** Jo Varca <j.varca@stockmeier.us.com>, "Tedquist, Bob" <Bob.Tedquist@fike.com>, "Umstattd, Lisa" <Lisa.Umstattd@fike.com>, Ken Koenig <kkoenig@andrewsindustrialcontro.onmicrosoft.com>

Rocky,

Attached is the quotation requested. Once you have the operating conditions for Reactor 9, I can add that to the quote and calculations as well. Please let us know if you have any questions. Thank you for the opportunity of submitting this quotation.

Regards,

Dan Kolligian

Andrews Industrial Controls, Inc.

108 Rosslyn Road

Carnegie, PA 15106

ID # 33-150  
Reg R13-2581R  
Company Stockmeier  
Facility Clarksburg Initials SK

entire Document is  
**NON-CONFIDENTIAL**

Phone: [\(412\) 279-5335](tel:(412)279-5335)

Fax: [\(412\) 279-5351](tel:(412)279-5351)

Email: [dkolligian@andrewsic.com](mailto:dkolligian@andrewsic.com)

---

**From:** Umstatttd, Lisa [mailto:[Lisa.Umstatttd@Fike.com](mailto:Lisa.Umstatttd@Fike.com)]

**Sent:** Friday, September 25, 2015 10:17 AM

**To:** Rocky Romine <[r.romine@stockmeier.us.com](mailto:r.romine@stockmeier.us.com)>; Dan Kolligian <[dkolligian@andrewsic.com](mailto:dkolligian@andrewsic.com)>

**Cc:** Jo Varca <[j.varca@stockmeier.us.com](mailto:j.varca@stockmeier.us.com)>; Tedquist, Bob <[Bob.Tedquist@Fike.com](mailto:Bob.Tedquist@Fike.com)>

**Subject:** RE: HC Reactor Safety Valves

Good morning Rocky,

I have contacted Dan Kolligian and provided him with the information to be able to perform rupture disc sizing calculations for each application. We will base each sizing on a two inch disc. Once you have our disc calculations, you will be able to work with a process engineer to determine if the two inch disc will provide enough relief capacity for the rapid expansion of CO2.

We will also provide a budgetary quote. Due to the low MAWP/burst pressures, we will be offering the 2" Axius rupture disc and XLO holder.

Please find attached information for the Axius Rupture Disc, XLO Holder and TB8104. Our disc sizing calculations are based on the MNFA established in TB8104.

Thank you for the contacting Fike. We look forward to working with you.

Best regards,

Lisa

**Lisa Umstatttd**

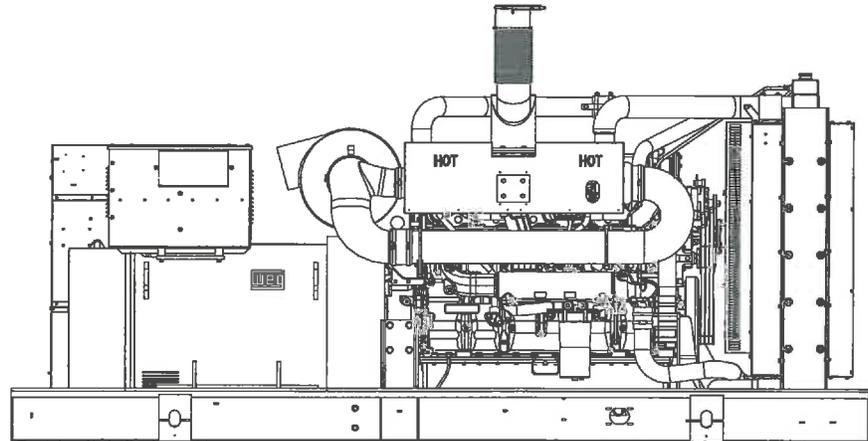
*Application Specialist II, Industrial Protection*

# SD600

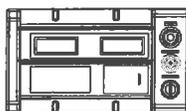
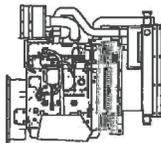
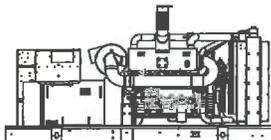
## Industrial Diesel Generator Set

EPA Certified Stationary Emergency

Standby Power Rating  
750kVA 600kW 60Hz



Generator image used for illustration purposes only



### features

#### Generator Set

- PROTOTYPE & TORSIONALLY TESTED
- UL2200 TESTED
- RHINOCOAT PAINT SYSTEM
- WIDE RANGE OF ENCLOSURES AND TANKS

#### Engine

- EPA COMPLIANT
- INDUSTRIAL TESTED, GENERAC APPROVED
- POWER-MATCHED OUTPUT
- INDUSTRIAL GRADE

#### Alternator

- TWO-THIRDS PITCH
- LAYER WOUND ROTOR & STATOR
- CLASS H MATERIALS
- DIGITAL 3-PHASE VOLTAGE CONTROL

#### Controls

- ENCAPSULATED BOARD W/ SEALED HARNESS
- 4-20mA VOLTAGE-TO-CURRENT SENSORS
- SURFACE-MOUNT TECHNOLOGY
- ADVANCED DIAGNOSTICS & COMMUNICATIONS

### benefits

- ▶ PROVIDES A PROVEN UNIT
- ▶ ENSURES A QUALITY PRODUCT
- ▶ IMPROVES RESISTANCE TO ELEMENTS
- ▶ PROVIDES A SINGLE SOURCE SOLUTION

- ▶ MEETS EPA STANDARDS
- ▶ ENSURES INDUSTRIAL STANDARDS
- ▶ ENGINEERED FOR PERFORMANCE
- ▶ IMPROVES LONGEVITY AND RELIABILITY

- ▶ ELIMINATES HARMFUL 3RD HARMONIC
- ▶ IMPROVES COOLING
- ▶ HEAT TOLERANT DESIGN
- ▶ FAST AND ACCURATE RESPONSE

- ▶ EASY, AFFORDABLE REPLACEMENT
- ▶ NOISE RESISTANT 24/7 MONITORING
- ▶ PROVIDES VIBRATION RESISTANCE
- ▶ HARDENED RELIABILITY

primary codes and standards



## SD600

## application and engineering data

### ENGINE SPECIFICATIONS

#### General

Make	Perkins
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emissions Data Sheet
Cylinder #	6
Type	In-Line
Displacement - L	18.13
Bore - mm (in.)	145(5.71)
Stroke - mm (in.)	183(7.20)
Compression Ratio	14.5:1
Intake Air Method	Turbocharged/Aftercooled
Cylinder Head Type	4 Valve
Piston Type	Aluminum
Connecting Rod Type	I-Beam Section

#### Engine Governing

Governor	Electronic Isochronous
Frequency Regulation (Steady State)	± 0.25%

#### Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full-Flow Cartridge
Crankcase Capacity - L (Gal)	60 (15.8)

#### Cooling System

Cooling System Type	Closed Recovery
Water Pump	Centrifugal Type, Belt-Driven
Fan Type	Pusher
Fan Speed (rpm)	1439
Fan Diameter mm (in.)	965 (38)
Coolant Heater Standard Wattage	1500
Coolant Heater Standard Voltage	120VAC

#### Fuel System

Fuel Type	Ultra Low Sulfur Diesel #2
Fuel Specifications	ASTM
Fuel Filtering (microns)	Primary 10 - Secondary 2
Fuel Injection	Electronic
Fuel Pump Type	Engine Driven Gear
Injector Type	MEUI
Engine Type	Pre-Combustion
Fuel Supply Line - mm (in.)	12.7 (½"NPT)
Fuel Return Line - mm (in.)	12.7 (½"NPT)

#### Engine Electrical System

System Voltage	24VDC
Battery Charging Alternator	70 Amps at 24V
Battery Size (at 0°C)	1155 CCA
Battery Group	8D
Battery Voltage	(2) - 12VDC
Ground Polarity	Negative

### ALTERNATOR SPECIFICATIONS

Standard Model	WEG
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	< 3%
Telephone Interference Factor (TIF)	< 50
Standard Excitation	Permanent Magnet
Bearings	Single Sealed Cartridge
Coupling	Direct, Flexible Disc
Load Capacity - Standby	100%
Prototype Short Circuit Test	Yes

Voltage Regulator Type	Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	± 1%

### CODES AND STANDARDS COMPLIANCE (WHERE APPLICABLE)

NFPA 99	BS5514
NFPA 110	SAE J1349
ISO 8528-5	DIN6271
ISO 1708A.5	IEEE C62.41 TESTING
ISO 3046	NEMA ICS 1
ETL certified to UL2200 Standards	

#### Rating Definitions:

Standby – Applicable for a varying emergency load for the duration of a utility power outage with no overload capability. (Max. load factor = 70%)

Prime – Applicable for supplying power to a varying load in lieu of utility for an unlimited amount of running time. (Max. load factor = 80%) A 10% overload capacity is available for 1 out of every 12 hours.

# SD600

## operating data (60Hz)

### POWER RATINGS (kW)

STANDBY		
Three-Phase 120/208VAC @0.8pf	600 kW	Amps: 2081
Three-Phase 120/240VAC @0.8pf	600 kW	Amps: 1804
Three-Phase 277/480VAC @0.8pf	600 kW	Amps: 903
Three-Phase 346/600VAC @0.8pf	600 kW	Amps: 723

### STARTING CAPABILITIES (sKVA)

sKVA vs. Voltage Dip															
480VAC								208/240VAC							
Alternator	kW	10%	15%	20%	25%	30%	35%	Alternator	kW	10%	15%	20%	25%	30%	35%
Standard	600	743	1114	1486	1857	2229	2600	Standard	600	543	814	1086	1357	1629	1900
Upsize 1	832	757	1136	1514	1893	2271	2650	Upsize 1	723	571	857	1143	1429	1714	2000
Upsize 2	-	-	-	-	-	-	-	Upsize 2	-	-	-	-	-	-	-

### FUEL

Fuel Pump Lift - m (ft)			STANDBY		
3.7 (12)			Percent Load	gph	lph
			25%	18.4	69.7
			50%	28.2	88.7
			75%	35.6	134.8
			100%	41.4	156.7

\* Refer to "Emissions Data Sheet" for maximum fuel flow for EPA and SCAQMD permitting purposes.

### COOLING

STANDBY		
Coolant Flow per Minute	gpm (lpm)	114.1 (432)
Heat Rejection to Coolant	BTU/hr	1,589,760
Inlet Air	cfm (m <sup>3</sup> /min)	30,088 (852)
Max. Operating Radiator Air Temp	F° (C°)	122 (50)
Max. Operating Ambient Temperature	F° (C°)	104 (40)
Coolant System Capacity	gal (L)	13 (49)
Maximum Radiator Backpressure	in H <sub>2</sub> O	0.5

### COMBUSTION AIR REQUIREMENTS

STANDBY		
Flow at Rated Power	cfm (m <sup>3</sup> /min)	1836 (52)

### ENGINE

STANDBY		
Rated Engine Speed	rpm	1800
Horsepower at Rated kW**	hp	909
Piston Speed	ft/min	2161.4
BMEP	psi	361

\*\* Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

### EXHAUST

STANDBY		
Exhaust Flow (Rated Output)	cfm (m <sup>3</sup> /min)	4980 (141)
Max. Backpressure (Post Silencer)	inHg (Kpa)	2.03 (6.9)
Exhaust Temp (Rated Output)	°F (°C)	1029 (554)
Exhaust Outlet Size (Open Set)		8"

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions. Please consult a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528 and DIN6271 standards.

## SD600

## standard features and options

### GENERATOR SET

● Genset Vibration Isolation	Std
○ IBC/OSHPD Seismic Certified	Opt
○ Extended warranty	Opt
○ Gen-Link Communications Software	Opt
○ Steel Enclosure	Opt
○ Aluminum Enclosure	Opt

### ENGINE SYSTEM

#### General

● Oil Drain Extension	Std
○ Oil Heater	Opt
● Air cleaner	Std
● Fan guard	Std
● Radiator duct adapter	Std
● Stainless steel flexible exhaust connection	Std
○ Critical Exhaust Silencer	Opt

#### Fuel System

● Secondary fuel filter	Std
○ Flexible fuel lines	Opt
● Primary fuel filter	Std
○ UL 142 Fuel Tank	Opt

#### Cooling System

● 120VAC Coolant Heater	Std
● Closed Coolant Recovery System	Std
● UV/Ozone resistant hoses	Std
● Factory-Installed Radiator	Std
● Radiator Drain Extension	Std

#### Engine Electrical System

● Battery charging alternator	Std
● Battery cables	Std
○ Battery heater	Opt
● Solenoid activated starter motor	Std
○ 10A UL float/equalize battery charger	Opt
● Rubber-booted engine electrical connections	Std

### ALTERNATOR SYSTEM

● GENprotect™ Alternator Protection Algorithm	Std
○ Main Line Circuit Breaker	Opt
○ 2nd Circuit Breaker	Opt
○ 3rd Circuit Breaker	-
○ Alternator Upsizing	Opt
○ Anti-Condensation Heater	Opt
○ Tropical coating	Opt
● Permanent Magnet Generator	Std

### CONTROL SYSTEM

#### Control Panel

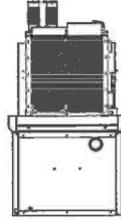
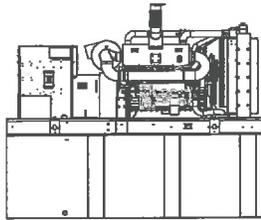
● Digital H Control Panel - Dual 4x20 Display	Std
○ Digital G-200 Paralleling Control Panel - Touchscreen	na
● Programmable Crank Limiter	Std
○ 21-Light Remote Annunciator	Opt
○ Remote Relay Panel (8 or 16)	Opt
● 7-Day Programmable Exerciser	Std
● Special Applications Programmable PLC	Std
● RS-232	Std
● RS-485	Std
● All-Phase Sensing DVR	Std
● Full System Status	Std
● Utility Monitoring (Req. H-Transfer Switch)	Std
● 2-Wire Start Compatible	Std
● Power Output (kW)	Std
● Power Factor	Std
● Reactive Power	Std
● All phase AC Voltage	Std
● All phase Currents	Std
● Oil Pressure	Std
● Coolant Temperature	Std
● Coolant Level	Std
○ Oil Temperature	Opt
● Engine Speed	Std
● Battery Voltage	Std
● Frequency	Std
● Date/Time Fault History (Alarm & Event Log)	Std
○ Low-Speed Exercise	-
● Isochronous Governor Control	Std
● -40deg C - 70deg C Operation	Std
● Waterproof Plug-In Connectors	Std
● Audible Alarms and Shutdowns	Std
● Not in Auto (Flashing Light)	Std
● Auto/Off/Manual Switch	Std
● E-Stop (Red Mushroom-Type)	Std
○ Remote E-Stop (Break Glass-Type, Surface Mount)	Opt
○ Remote E-Stop (Red Mushroom-Type, Surface Mount)	Opt
○ Remote E-Stop (Red Mushroom-Type, Flush Mount)	Opt
● NFPA 110 Level I and II (Programmable)	Std
● Remote Communication - RS232	Std
○ Remote Communication - Modem	Opt
○ Remote Communication - Ethernet	Opt
○ 10A Run Relay	Opt

#### Alarms (Programmable Tolerances, Pre-Alarms and Shutdowns)

○ Low Fuel	Opt
● Oil Pressure (Pre-programmed Low Pressure Shutdown)	Std
● Coolant Temperature (Pre-programmed High Temp Shutdown)	Std
● Coolant Level (Pre-programmed Low Level Shutdown)	Std
○ Oil Temperature	Opt
● Engine Speed (Pre-programmed Overspeed Shutdown)	Std
● Voltage (Pre-programmed Overvoltage Shutdown)	Std
● Battery Voltage	Std

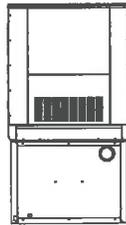
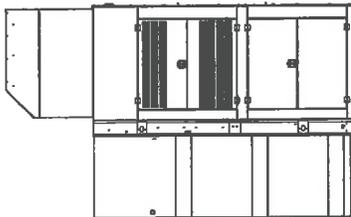
# SD600

## enclosure and tank configurations



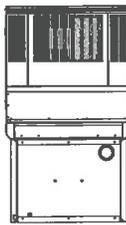
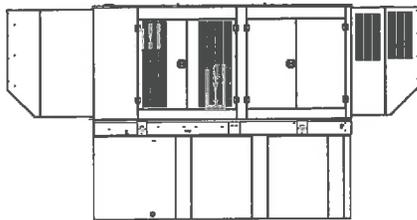
### OPEN SET

RUN TIME HOURS	USABLE CAPACITY (GAL)
NO TANK	-
8	334
24	1001
24	1001
48	2002



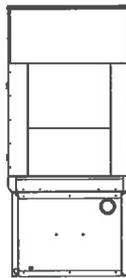
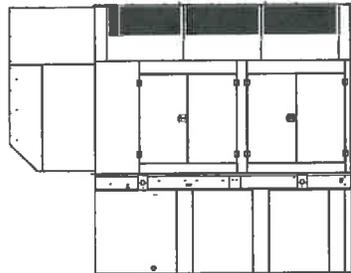
### STANDARD ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY (GAL)
NO TANK	-
8	334
24	1001
24	1001
48	2002



### LEVEL 1 SOUND ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY (GAL)
NO TANK	-
8	334
24	1001
24	1001
48	2002



### LEVEL 2 SOUND ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY (GAL)
NO TANK	-
8	334
24	1001
24	1001
48	2002

\*All measurements are approximate and for estimation purposes only. Weights and dBA are available on Install drawings and sound data sheets, respectively.

#### Tank Options

<input type="radio"/> MDEQ	OPT
<input type="radio"/> Florida DERM/DEP	OPT
<input type="radio"/> Chicago Fire Code	OPT
<input type="radio"/> IFC Certification	CALL
<input type="radio"/> ULC	CALL

Other Custom Options Available from your Generac Industrial Power Dealer

#### YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings.

## Andrews, Edward S

---

**From:** Rocky Romine <r.romine@stockmeier.us.com>  
**Sent:** Monday, June 27, 2016 4:39 PM  
**To:** Andrews, Edward S  
**Cc:** Lori Steele; Rice, Jennifer L; Dettinger, Karl L; Brian Woods  
**Subject:** Re: Stockmeier Urethanes, Inc. - Permit Application R13-2581B  
**Attachments:** Stockmeier Name Change - WV DEP (DAQ).pdf; Carbon Drum Saturation Indicator 1.jpg; Carbon Drum Saturation Media.jpg

Edward et al,

- 1) See the attached signed name change document per your request
- 2) The activated carbon drum 1 year change out was the minimum suggested frequency based on the previous air permit. I am not sure how this frequency came to be. We do however monitor the saturation indicators on all activate carbon drums. When 1 of the drums' media has exhausted its useful life we change all the drum units out at the same time. This simplifies tracking each one individually to ensure all get changed out within a 1 year time period. Historically we have been changing all units out approx. every 6 months. See attached pics for saturation units on drums.
- 3) My project engineer and I will have a schematic of vapor flows to/from Tanks, Reactors, Tanker Trucks, any vapor flow by-pass routes... hopefully by week's end.

Let me know if I can be of further assistance.

Regards,

Rocky Romine



Virus-free. [www.avast.com](http://www.avast.com)

On Mon, Jun 27, 2016 at 11:29 AM, Andrews, Edward S <[Edward.S.Andrews@wv.gov](mailto:Edward.S.Andrews@wv.gov)> wrote:

Rocky: I have a couple of items that I need some additional information on and name of company change.

I would a schematic of the closed vent system from the tanks, reactors, and loadout rack. Please note if there are any manual or automatic by-pass of the close vent system and the type of piping used for the closed vent system.

The other issues is predicting when breakthrough of the carbon drums occurs at. Is the once per year suggested by the manufacturer or just proposed since it was already required by the existing permit?

Are the drums equipment with indicators and if so how does it work?

Does the manufacturer (Chem-Trade) have any breakthrough curves of their control device?

It was discovered that in 2004 Stockmeier Urethanes change the name to Stockmeier Urethanes U.S.A., Inc. We have it a Stockmeier Urethanes, Inc. Please see the attached e-mail. If you have any questions about the filling out the name change form(s), please contact Jennifer Rice at [304-926-0499 ext 1227](tel:304-926-0499).

Should you have any questions about this email, please contact me.

Thanks,

Ed

Edward S. Andrews, P.E.

Engineer

West Virginia Department of Environmental Protection

Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

[304.926.0499 ext. 1214](tel:304.926.0499)

----- Forwarded message -----

From: "Hammonds, Stephanie E" <[Stephanie.E.Hammonds@wv.gov](mailto:Stephanie.E.Hammonds@wv.gov)>

To: "Andrews, Edward S" <[Edward.S.Andrews@wv.gov](mailto:Edward.S.Andrews@wv.gov)>

Cc: "Rice, Jennifer L" <[Jennifer.L.Rice@wv.gov](mailto:Jennifer.L.Rice@wv.gov)>

Date: Fri, 17 Jun 2016 14:52:48 +0000

Subject: Permit application R13-2581B

Hey there! According to the Secretary of State's website, Stockmeier Urethanes, Inc. (033-00150) changed their name on July 28, 2004 to Stockmeier Urethanes U.S.A., Inc. When you are in contact with them about application R13-2581B, could you send them the attached name change letter and ask them to return it to Jennifer? Thanks!

## Stephanie Hammonds

### WVDEP - Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

[Stephanie.F.Hammonds@wv.gov](mailto:Stephanie.F.Hammonds@wv.gov)

Phone: [304 926 0499](tel:304-926-0499), ext. 1234

FAX: [304 926 0479](tel:304-926-0479)

--

Rocky Romine

Director of Operations & EHS

STOCKMEIER Urethanes USA, Inc.

20 Columbia Boulevard

Clarksburg, WV 26301-9606

T: [304\) 624-7002](tel:304-624-7002) ext. 126

F: [304\) 624-7020](tel:304-624-7020)

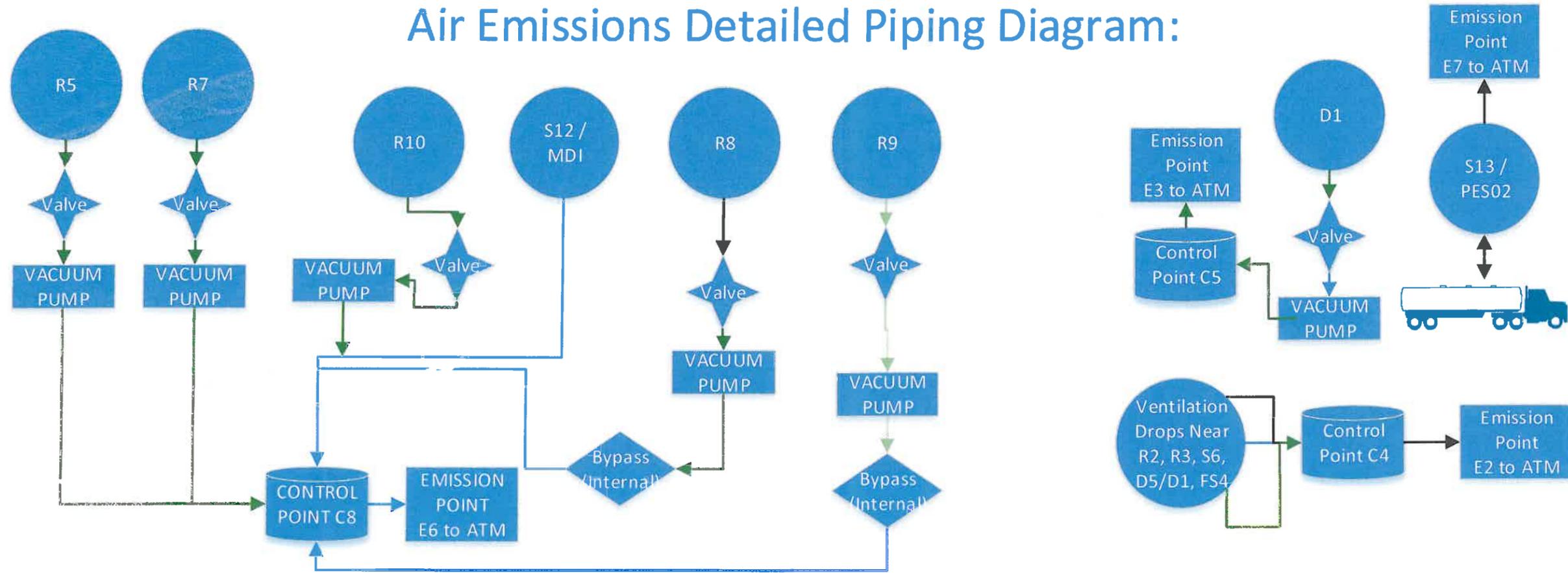
C: [304\) 841-8436](tel:304-841-8436)

[r.romine@stockmeier.us.com](mailto:r.romine@stockmeier.us.com)

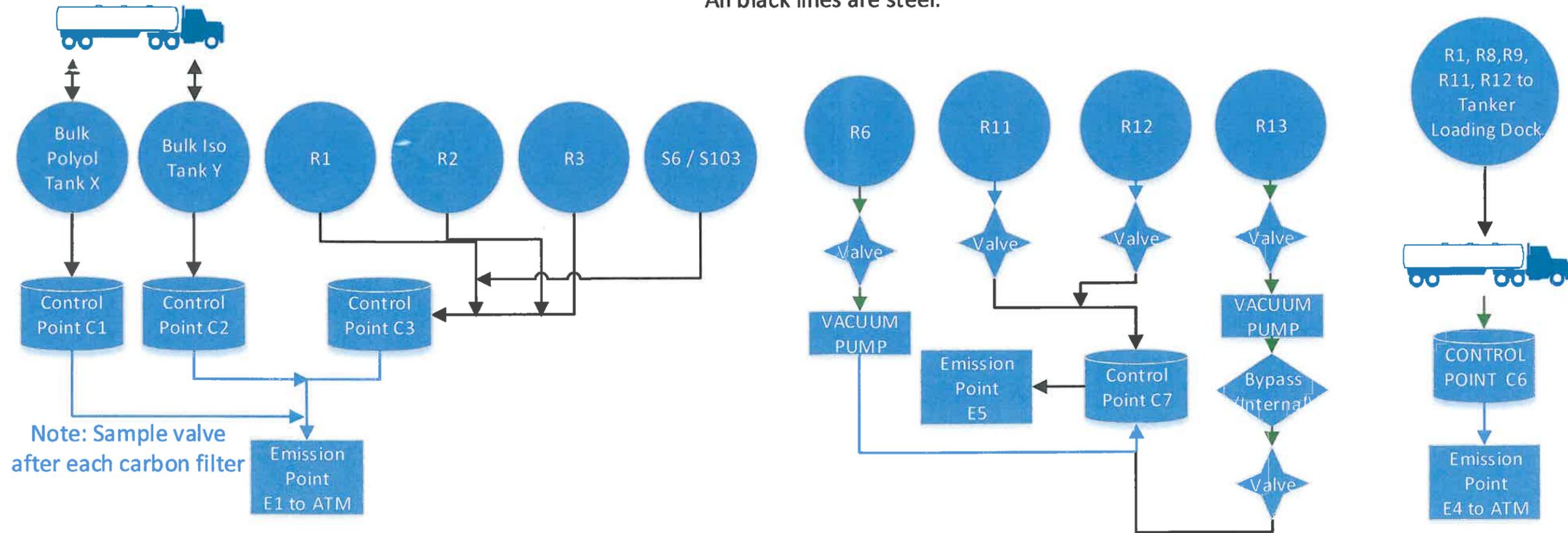
**\*\*Send Orders to [sales@stockmeier.us.com](mailto:sales@stockmeier.us.com) or fax to [304-624-7020](tel:304-624-7020)\*\***

This email and any files transmitted with it are confidential and intended solely for the use of the individual or entity to which it is addressed. If you have received this email in error please notify the sender. Please note that any views or opinions presented in this email are solely those of the author and do not necessarily represent those of Stockmeier Urethanes. Please check this email and any attachments for the presence of viruses. Stockmeier Urethanes accepts no liability for any damage caused by any virus transmitted in this email.

# Air Emissions Detailed Piping Diagram:



Note: All blue lines are PVC;  
All green lines are flexible hose;  
All black lines are steel.



Note: Sample valve after each carbon filter



609 West Main Street • P.O. Drawer 190 • Clarksburg, WV 26302-0190  
304.624.9700 • 304.622.0981 • 304.842.3325 • <http://www.msesinc.com>  
Office Fax 24 Hour World Wide Web



May 31, 2016  
Project No. 16-119

Ed Andrews  
WV Department of Environmental Protection  
Division of Air Quality  
601 57<sup>th</sup> Street, SE  
Charleston, West Virginia 25304

**AFFIDAVIT OF PUBLICATION**  
**STOCKMEIER URETHANES, INC.**  
**PERMIT APPLICATION NO. R13-2581**  
**PLANT ID NO. 033-00150**

Dear Mr. Andrews,

Please find enclosed the affidavit of publication of the legal advertisement for the 45CSR13 permit modification application for the Stockmeier Urethanes facility located in Clarksburg, Harrison County, West Virginia.

Please advise if additional information is required.

Respectfully submitted,

Lori Steele  
Senior Environmental Scientist

Enclosure

Cc: Rocky Romine / Stockmeier Urethanes, Inc.

*Entire Document*  
**NON-CONFIDENTIAL**

*Environmental*  *Engineering*  *Energy*  *Air*  
*Safety*  *Land Services*  *Waste Management*  *Water*  *Industrial Hygiene*



**PUBLISHER'S CERTIFICATE**

I, Loretta Greathouse  
Classified Manager of THE EXPONENT TELEGRAM, a newspaper of general circulation published in the city of Clarksburg, County and state aforesaid, do hereby certify that the annexed:

**AIR QUALITY PERMIT NOTICE**

was published in THE EXPONENT-TELEGRAM 1 time(s) commencing on 05/09/2016 and ending on 05/09/2016 at the request of

**MSES CONSULTANTS.**

Given under my hand this 05/20/16.

The publisher's fee for said publication is: \$46.62.

Loretta Greathouse

Classified Manager of The Exponent-Telegram

Subscribed to and sworn to before me this 05/20/16

Sarah E. Hurst

Notary Public in and for Harrison County, WV

**AIR QUALITY PERMIT NOTICE**  
Notice of Application

Notice is given that Stockmeier Urethanes, Inc., has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Modification Permit to increase production limits at its facility located at 20 Columbia Boulevard, Clarksburg, in Harrison County, West Virginia. The latitude and longitude coordinates are: 39.28193 degrees North and 80.29410 degrees West.

The applicant estimates a net change in potential to discharge the following Regulated Air Pollutants will be:

- Carbon Monoxide (CO): 0.375 tons per year
- Oxides of Nitrogen (NOx): 0.013 tons per year
- Particulate Matter (PM): 0.028 tons per year
- Sulfur Dioxide (SO2): 0.423 tons per year
- Volatile Organic Compounds (VOC): 4.554 tons per year
- Total Hazardous Air Pollutants (HAPs): 0.262 tons per year

Modification of the operation began during the first quarter of 2015. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.

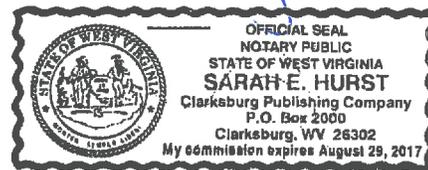
Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 1227, during normal business hours.

Dated this the 10th day of May 2016.

By: Stockmeier Urethanes, Inc.  
Bryan R. Morris  
VP TS&D and EHS  
P.O. Box 1456  
Clarksburg, WV 26302-1456

My commission expires on

The 20th day of August 2017



**Adkins, Sandra K**

---

**From:** Adkins, Sandra K  
**Sent:** Friday, May 06, 2016 4:22 PM  
**To:** 'c.martinkat@stockmeier.us.com'; 'r.romine@stockmeier.us.com'; 'lsteel@msesinc.com'  
**Cc:** McKeone, Beverly D; Andrews, Edward S  
**Subject:** WV DAQ Permit Application Status for Stockmeier Urethanes, Inc.; Clarksburg

**RE: Application Status  
Stockmeier Urethanes, Inc.  
Clarksburg  
Facility ID No. 033-00150  
Application No. R13-2581B**

Mr. Martinkat,

Your application for modification permit for the Clarksburg facility was received by this Division on May 6, 2016, and was assigned to Ed Andrews. The following item was not included in the initial application submittal:

**Original affidavit for Class I legal advertisement not submitted.**  
*Ad should include telephone extension 1250.*

*This item is necessary for the assigned permit writer to continue the 30-day completeness review.*

Within 30 days, you should receive a letter from Ed stating the status of the permit application and, if complete, given an estimated time frame for the agency's final action on the permit.

Any determination of completeness shall not relieve the permit applicant of the requirement to subsequently submit, in a timely manner, any additional or corrected information deemed necessary for a final permit decision.

Applications should include one original and two electronic versions. Electronic versions should contain signatures.

Should you have any questions, please contact the assigned engineer, Ed Andrews, at 304-926-0499, extension 1214.

*Entire Document*  
**NON-CONFIDENTIAL**

May 5, 2016

Edward S. Andrews  
West Virginia Department of  
Environmental Protection  
Division of Air Quality  
601 57<sup>th</sup> Street, SE  
Charleston, West Virginia 25304



**Stockmeier Urethanes, Inc.**  
**Plant ID # 033-00150**  
**R13-2581 B**

Dear Mr. Andrews,

Please find enclosed four (4) copies of the revised 45CSR13 Permit Modification Application that was originally submitted in September 2014.

This permit modification application correctly reflects the modifications to the operations at the facility. Please apply our \$2,000.00 application fee that was submitted in September 2014 to this permit modification application.

If you have any questions or need additional information please contact me.

Sincerely,

Rocky Romine  
Director of Operations & EHS

Cc: Lori Steele / MSES Consultants, Inc.

*Entire Document*  
**NON-CONFIDENTIAL**